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Advertisers are classified and arranged in the following order:

	PAGE		PAGE
AGENCIES—CLAY PRODUCTS	II	BRICK ENAMELED	III and IV
ARCHITECTURAL FAIENCE	II	BRICK WATERPROOFING	IV
ARCHITECTURAL TERRA COTTA	II and III	FIREPROOFING	IV
BRICK	III	ROOFING TILE	IV

Advertisements will be printed on cover pages only.

CONTENTS

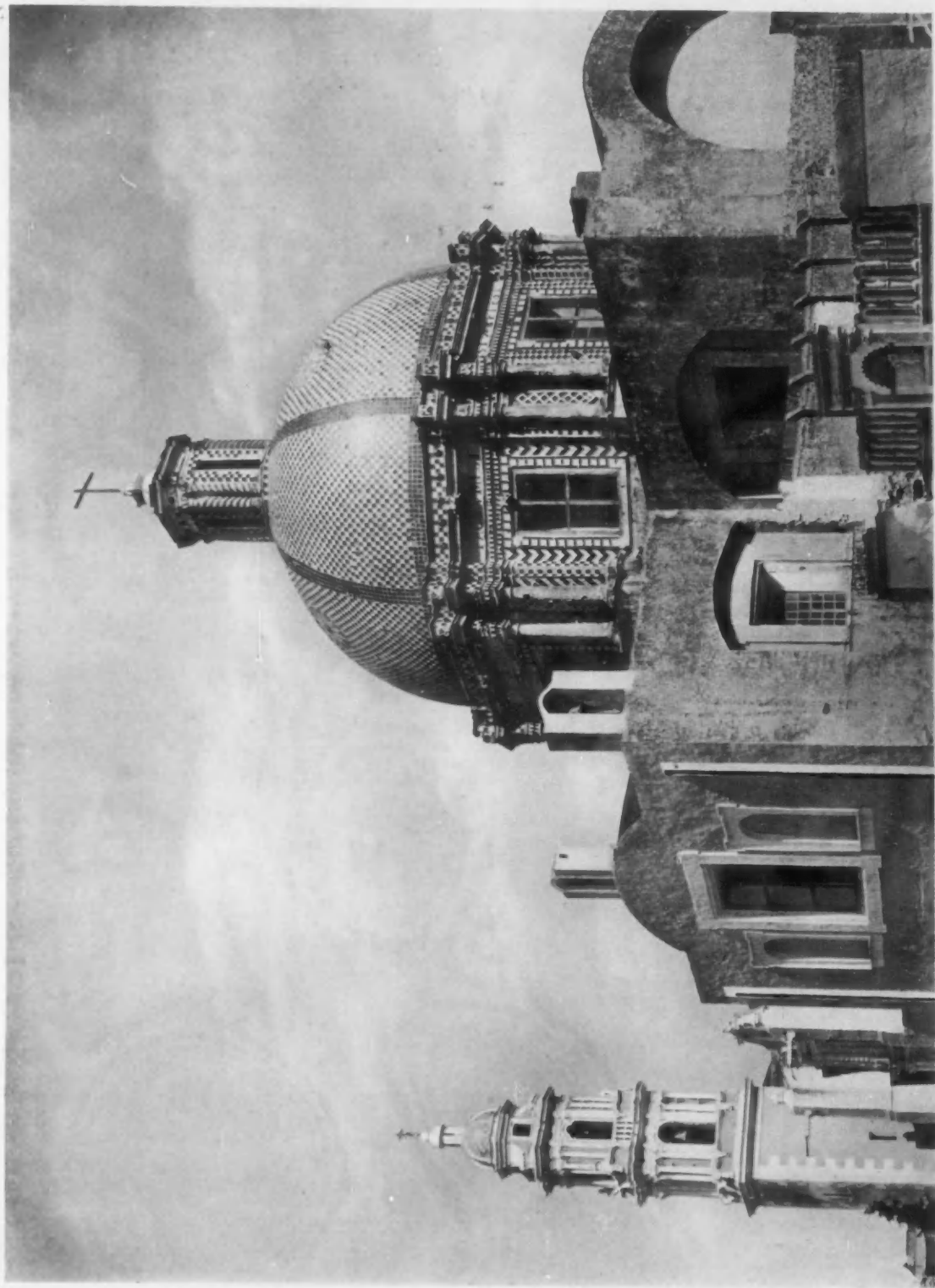
PLATE ILLUSTRATIONS

FROM WORK BY

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LETTERPRESS

NUESTRA SRA. DE LA SOLEDAD, PUEBLA, MEXICO.....	Frontispiece
THE COMPLETE ANGLER OR COMPETITIONS ANCIENT AND MODERN.....	Hubert G. Ripley 3
HOW ARCHITECTS WORK.—II. OFFICES OF NOTED ARCHITECTS.....	D. Everett Waid 7
HEATING AND VENTILATION OF SCHOOLS.—I.....	Charles L. Hubbard 11
LEGAL HINTS FOR ARCHITECTS.—PART VII.....	William L. Boteman 15
NAVAL TRAINING STATION, CHICAGO, JARVIS HUNT, ARCHITECT.....	18
EDITORIAL COMMENT AND MISCELLANY.....	21
COMPETITION FOR DESIGN OF A CHILDREN'S ROOM.....	26
COMPETITION, THE LE BRUN TRAVELING SCHOLARSHIP.....	26
COMPETITION PROGRAM FOR A BRICK BUNGALOW.....	28



NUESTRA SRA. DE LA SOLEDAD,
PUEBLA, MEXICO.



A CRITICAL AND HISTORICAL ANALYSIS OF THEIR ORIGIN AND DEVELOPMENT: WITH HELPFUL HINTS TO EARNEST SEEKERS.

BY HUBERT G. RIPLEY.

I.

JOSEPH WORCESTER, LL.D., after telling the world many things concerning a great variety of subjects, found time to define the word competition. He says in substance as follows:

COM-PE-TI-TION (Kom-pe-tish'un), n. [L. *con*, with, and *peto*, *petitus*, to strive after; Sp. *competicion* Fr. *compétition*]. The act of competing; a common striving for the same object; rivalry; emulation; contest.

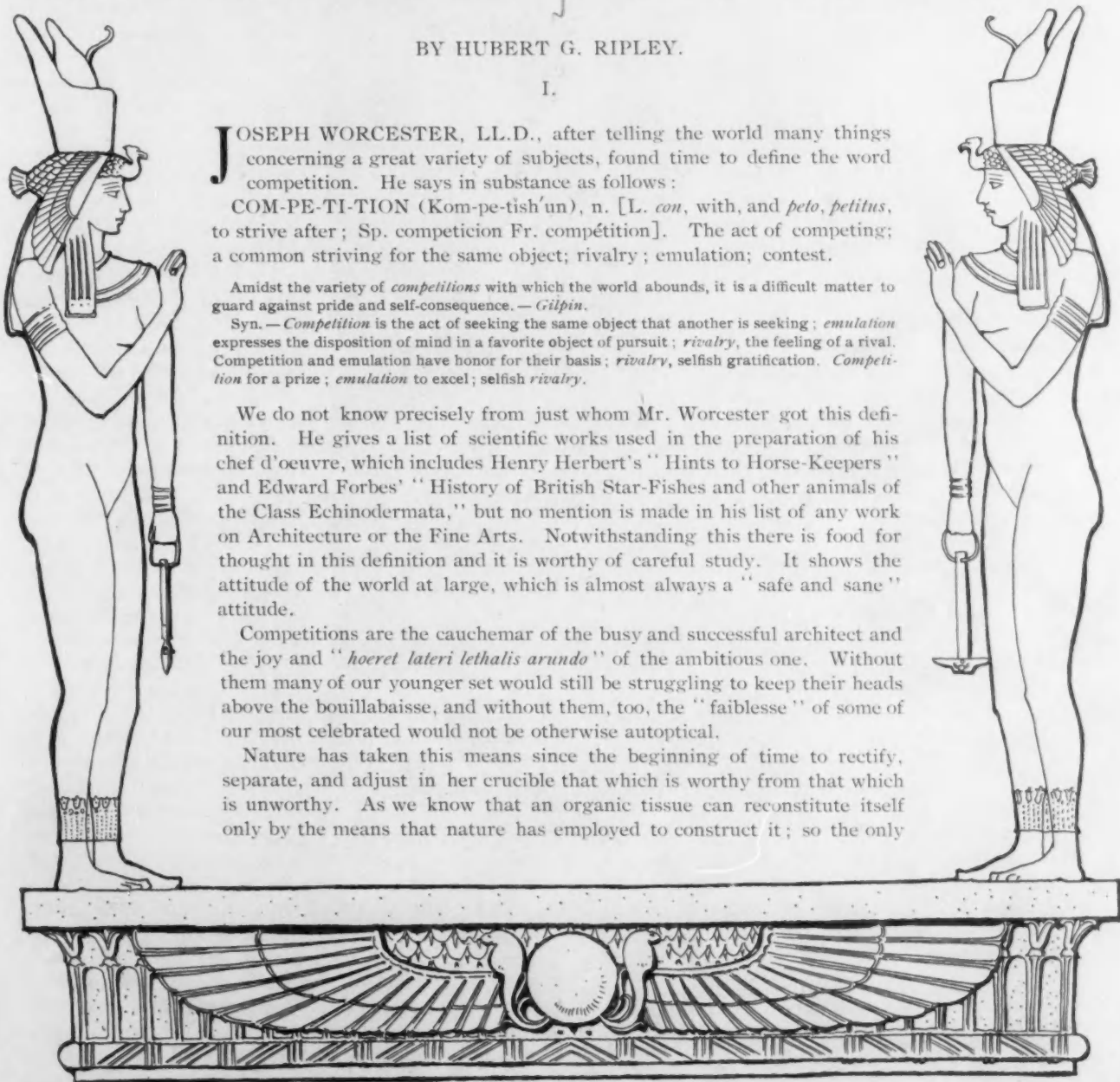
Amidst the variety of *competitions* with which the world abounds, it is a difficult matter to guard against pride and self-consequence. — *Gilpin*.

Syn. — *Competition* is the act of seeking the same object that another is seeking; *emulation* expresses the disposition of mind in a favorite object of pursuit; *rivalry*, the feeling of a rival. Competition and emulation have honor for their basis; *rivalry*, selfish gratification. *Competition* for a prize; *emulation* to excel; selfish *rivalry*.

We do not know precisely from just whom Mr. Worcester got this definition. He gives a list of scientific works used in the preparation of his chef d'oeuvre, which includes Henry Herbert's "Hints to Horse-Keeper" and Edward Forbes' "History of British Star-Fishes and other animals of the Class Echinodermata," but no mention is made in his list of any work on Architecture or the Fine Arts. Notwithstanding this there is food for thought in this definition and it is worthy of careful study. It shows the attitude of the world at large, which is almost always a "safe and sane" attitude.

Competitions are the cauchemar of the busy and successful architect and the joy and "*hoeret lateri lethalis arundo*" of the ambitious one. Without them many of our younger set would still be struggling to keep their heads above the bouillabaisse, and without them, too, the "*faiblesse*" of some of our most celebrated would not be otherwise autoptical.

Nature has taken this means since the beginning of time to rectify, separate, and adjust in her crucible that which is worthy from that which is unworthy. As we know that an organic tissue can reconstitute itself only by the means that nature has employed to construct it; so the only



progress we can hope for in the Supreme Art (whose hand-maidens we all are) is to build up from that which has been torn down, using the same articulata and res dejecta in various and sundry ways as employed by the archencephala of Hierosycaminos.

That may sound somewhat complicated, but if you will study it over carefully you will find that it reads just as well backwards as forwards. Let us then roll up our sleeves and get a toe-hold on the subject afresh.

As Anatole France says, "What are the means, what are the processes of nature? She knows neither the hand nor the utensil; she is subtil, she is spirituelle; she employs in her most powerful and massive construction particles of matter infinitely thin, the atom, the protyle. From impalpable mist she makes rocks, metals, plants, animals, men. How? By attraction, gravitation, transpiration, penetration, imbibition, endosmose, capillarity, affinity, sympathy. She forms not a grain of sand in a different manner than she forms the milky way; the harmony of the spheres reigns in the one as in the other; they both exist only by the movement of the particles that compose them, and which is their musical soul, *'amoureuse et toujours agitée.'* There is no difference in structure between the grain of dust which dances in a ray of sunlight and the stars of the heavens, and the least of these grains is as admirable as Sirius, for the marvel in all bodies of the universe is the infinitely small particles which animate them." (See footnote.)

It follows then that there is nothing new in competitions; they have always existed and always will exist. There is a romance about them, a charm, an *ignis fatuus*, a fetich, an odylic force; a searching of the imponderable after the impalpable.

The ambitious architect wants them for they bring him fame, glory, and shekels; the draftsman wants them for they give him opportunity, overtime, and a chance to eat a good dinner on the boss; the client wants them for they give him something for nothing (or almost nothing). The patriarchs and doyens of the profession say that competitions are not good for the client and are demoralizing

FOOTNOTE.—This is something we have long wanted to say, but before we had got around to saying it we found that somebody else had got ahead of us, and as long as they said it so clearly and concisely we prefer to let it go at that and give credit where credit is due, although we would eventually have said it anyway, though perhaps in a little different manner.—Ed.

to the architect, lowering of the professional standing, cheapening of the status, etc., and such like. Perhaps they are right in a way, but as architects have no professional standing and their status is considerably quo, that point will hardly hold. We slyly suspect that the wheezy old fellows of ponderous manners and millions of dollars of work in their offices would much prefer to have nice great big fat jobs handed to them on silver platters, garnished with smilax, watercress, and maraschino cherries, slices of lemon omitted.

The desirability or non-desirability of competitions need not be dwelt upon at length here; many folios contain many words on the subject in many publications, and some of these words and phrases can not only be read backwards as well as forwards, but from right to left, upside down, and in a mirror. The main point is that competitions are in our midst, and like everything else in life we may combine duty and pleasure in following them up to their logical or illogical conclusions.

There are two points of view in a competition, the point of view of the winner and the point of view of those who also submitted drawings. These view-points are almost always diametrically opposed. Cases where they are not diametrically opposed are as rare as a really good cocktail outside of Boston. Those who do not pull down the plums should remember that we cannot all be Hornbostels and Magonigles, but we can, to a greater or less degree, make the pace a bit more accelerated, and contribute in a negative way to a higher potentiality.

With few notable exceptions, how do the competition drawings of ten, fifteen, or twenty years ago compare with what is being turned out today? Answer. They don't begin to compare with them in any way, shape, or manner. Why, some recent competition

drawings are so overwhelmingly beautiful, exquisite, and utterly charming, that they make you want to break down and cry like a child. Then too (still with a few notable exceptions) the quality of the architecture is so greatly superior that nowadays we begin to feel that some of it is almost the real thing. This happy state of affairs is directly traceable to competitions which have done so much to develop and bring out the best that there is in contemporary work. It is doubtful if any other method would have done as much, for, however imperfect may be the system, the animating principle behind all this



FIG. I.


"The Hand of Destiny," from the painting by E. F. Maher. This sketch illustrates the state of mind of the average architect upon entering a competition. He knows he is fully armed and well equipped for the contest, and all around him sees illimitable and bewildering possibilities, plasmic, atomic, oedematous.

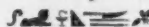

is the same that operates from the imponderable to the impalpable, to the imperceptible.

It is not necessary either to spend too much time or effort over the regulation of competitions. They will regulate themselves all in due season. In each country, or section of the country, the operation and practice of competitions is just about as civilized as the community in which it operates; and to make it more so—beyond a reasonable point—would work more harm than good. What we need is not a restriction in the number or size of competitions, but an extension of the system that will embrace all classes and kinds of work from the insignificant to the most important, from the trivial to the permanent and solid monuments that shall portray the progress of the human race. In this way, under proper conditions that would adjust themselves, each class of work, each building operation whether large or small, would receive the trained consideration of the one who was best fitted to attend to it. Incidentally some felicitous ones would have to sit up and take notice, and the really deserving would get their chance in proportion as they proved their fitness. Not that the really worthy do not get that chance as it is, sooner or later. Nature takes care of it all in due season, and while the millennium is not exactly at hand, things aren't so worse at that.

The true welding of sensitiveness to power in any art demands concentrated cunctative cogitation, therefore let us retrace our steps and look upon the historical aspects of competitions; what they were in the past and how under happier times they played their part in the development of style, harmony, rhythm, and balance.

One of the earliest contests of which we have any record is mentioned in the missing portion of the Rosetta Stone.

It seems that , a celebrated architect who flourished during the reign of Thotmes or Thoutmôsis VI., Dynasty XVIII., and who built the charming little bungalow for Queen Hatasu so familiar to the architectural student, is mentioned as having received second money in the competition for a Speos to Ptah.

 beat him out on account of the beauty and rendering of his Coptos sculptures. Of course this may have been accounted for by the fact that  had engaged, for this competition only, the services of Ptisch, the most celebrated draftsman of his day, and who excelled in paradigmatics. Strange, is it not, how up-to-date some of them old fellers was, and how we might never have known of this but for the missing portion of the Rosetta Stone?

Sesostris or Rhamses II. was a great patron of the arts and had constantly working for him a whole phalanx of architects who made the splendor and glory of his capital city the renown of the ancient world.

Thebes
With mighty stores of wealth, a hundred gates
Each pouring forth two hundred architects with cars
And horses."
—(Iliad, IX., 381.)

Most of his, or rather his architects', great works have survived more than thirty-two centuries and still command the admiration and awe of the beholder. This certainly ties the can on Memphis, Babylon, Nineveh, or even Imperial Rome itself.

The architect of those days had no Paris training and had to dig it all out himself. No Letarouilly, Buhlman, Cæsar Daly, or Frank Cousins to refer to for books or photographs; even tracing paper was very scarce and expensive and the original set of working drawings was usually chiseled on slabs of porphyry. Many of these slabs may be seen to-day, but unfortunately all traces of the original drawings have completely disappeared, gnawed off by the relentless tooth of time.

From fragmentary inscriptions here and there, however, we may learn a few of the customs and habits of these old and mighty architects. For instance, it was the universal practice to make all drawings on uniform size sheets or rather slabs of stone; the stone being porphyry for the more important buildings, though the jackalls of the profession used tufa largely for cheap tenement work. The stones were about the size of a double-elephant drawing board, only thicker, and it took "some" office boy to carry out a set of drawings to the job or to the contractor. To keep in good physical condition the old Egyptians used to go in bathing all winter long no matter how cold the water was. They had to, to preserve their strength to lug home drawings to work on at night.

Had we time to spare we could relate many interesting incidents concerning the architects of those days which would show clearly that the

practice of our art to-day differs very little from the customs and manners of the inhabitants of Hierosycaminos and Dodakaskoinos, but as space is limited we shall have to turn reluctantly from this fascinating pursuit and stick closely to our subject matter.

Conditions in Chaldea and Babylonia were not dissimilar to those that obtained contemporaneously in Egypt. The Chaldean architects were not so classical as the Egyptian; their style was more florid and their ethics were not as



FIG. II.

Our next illustration graphically portrays an every-day scene in Ancient Egypt, a workman busily engaged on chiseling one of the celebrated monuments of antiquity. In the preliminary roughing out, skilled artisans from the land of Amami and Ouauit were employed, then the finishing touches were given by the hand of a Khamôis or a Mehitouoskhît.

severe as those of their Nile brethren. For instance, they often did work for less than six per cent., and did not hesitate to take a contractor's cigar now and then, or let the builder pay for the drinks and lunches when inspecting work together. Both the Egyptians and the Chaldeans were great boys for inscriptions and were not afraid to cover up most any old blank wall space with letters and hieroglyphics. It should be explained, though, that the contractor himself usually submitted drawings for the inscriptions to the architects for approval before executing. The Chaldean and Babylonian architects used to make their scale drawings and full size details on tablets of clay and then have them fired. By this method they could work faster than the Egyptians and for this reason their detail suffered through overelaboration and profuseness.

The Egyptian architect used to like to get some good Chaldean or Babylonian draftsman in his office to set the pace for the native-born chaps, thinking that the greater facility of the Akkadian would tone up the "esprit de corps" of the establishment, but experiments along this line were rarely successful. On the other hand, the Chaldeans and Babylonian architects had no use for the Egyptian draftsmen, and seldom paid them more than ten drachmē a semester.

It is only within recent years that the giant strides made in all branches of science, and particularly in archeology, have revealed to us a fuller and richer understanding of the incunabula of art, in broadening our knowledge and allowing us to visualize actual conditions of the past. To Germany and particularly to German archeologists the world owes a debt that can never be paid. Among some of the most famous German archeologists may be mentioned Wincklemann, Bunsen, Walstein, Wiebeking and many others whose names are extremely difficult for stenographers to write without making mistakes; and the works they have given us should be read by all earnest seekers, not necessarily to the exclusion of the contemporary architectural periodicals, but as a pastime and relief from the heavier and more ponderous themes with which the columns of the professional press are loaded chuck up to the muzzle.

From the "Theoretisch - praktische bürgerliche Baukunde, durch Geschichte und Beschreibung der merkwürdigsten Baudenkmäler und ihre genauen Abbildungen bereichert" we have fortunately preserved to us frag-

mentary extracts of a program for a competition from an important building which seems to refer to the Temple of Osiris at Edfou, though we are more strongly inclined to attribute it to an earlier temple erected in honor of Hathor at Ebsamboul. Champollion, MM. Huyot and Gau, and Cadalvene bear us out in this, while Major Felix, Mr. Wilkinson, and S. Cherubini lean strongly to the former hypothesis.

Quoi qu'il en soit, after a recital of the general conditions and an alphabetical list of the members of the building committee, which is strongly reminiscent of modern conditions, we find this clause:

"Should it be found on examination that the successful architect has exceeded in his designs the cubage computed as mentioned in paragraph 53, his drawings will be thrown out and the job awarded to the next successful architect."

So far as is known this clause was never mentioned in competitions before this time. It was necessary to take this step to restrain architects from the practice of indicating in their competition drawings a much larger and expensive construction than could be built for the appropriation, all the while knowing that when the working drawings came to be made a simpler and less elaborate design would be drafted.

It previously had been the custom to award the capital prize in a competition to the best design irrespective of cost and having in view only the esthetic aspects of the building; and this custom was still followed during the time of the Ptolemies until the professional advisor, warned by disastrous experiences in the past, had a careful cubage of all the designs submitted, made by a disinterested contractor of irreproachable probity who handed in his report in writing on a roll of papyrus to the chairman of the building committee. The drawings were then carefully gone over a second time and any sets that showed an excess amount of material, or that evidently could not be built within the sum named, were "declared ineligible to

an award of the prize or of any premium."

From the preceding we learn that the idea of competitions has the weight and sanction of centuries of custom behind it, and how important a part it has played in the development of architecture. In fact, the origin of architectural competitions is lost in the night of time; one finds traces of it in the most remote epochs of antiquity; even before that time the custom was firmly established in the very beginnings of the human race.



FIG. III.

Restoration of one of the missing sphinxes in the grand avenue leading to the Amenopheum of Thebes. In this, as in the preceding drawing, Mr. Maher has forcibly presented the calm and majestic qualities of the spirit of those times, the emblem of intelligence, or the union of wisdom and force.

How Architects Work.

D. EVERETT WAID.

II.—OFFICES OF NOTED ARCHITECTS.

THE offices of York and Sawyer occupy an entire dumb-bell floor near the great new Public Library, and just sufficiently removed from Fifth Avenue to secure quiet freedom from the hum of the street traffic on that crowded thoroughfare. They are in the top of a high building, one of their own planning, which is the more desirable in that it is the habitation of a club. The interior sky-lighted reception room is the one room with pretentious decoration. There a painter has carried into execution some ideas of the architects as to Italian decoration. The beams of the ceiling and the frieze are ornamented above walls toned to harmonize with the general color scheme of the office.

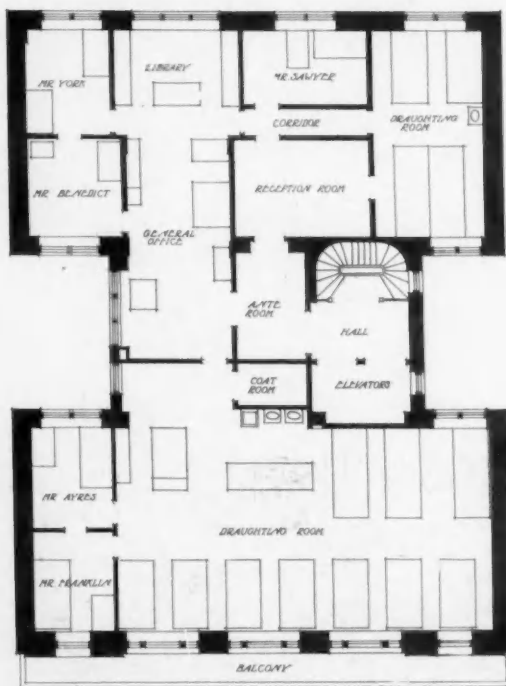
As the visitor passes through the anteroom he finds himself in a busy general office flooded with daylight, and the cheerful effect is made more sunny by means of the light oak trim and walls covered with natural burlap to match. The same effect is carried throughout the suite, from the attractive library alcove end of the general office, together with Mr. York's and Mr. Sawyer's private rooms lighted with south windows, to the small drafting room. A separate drafting room is desirable in every large office as a convenient isolation for a competition or other special rush work in which a group of men can work together guarded from interruption. The main drafting room is typical of other good drafting rooms with excellent north light. Each of the three assistant executives has an attractive private office, the location of which on the plan indicates well his respective relation to the administrative work of the office. It may be noted that the bookkeeping and stenographic work is done in the central portion of the general office where card and correspondence filing cabinets are compactly arranged.

Next we come to the office of Charles A. Platt, which is pervaded with the same quiet feeling of good taste that characterizes the work of this artist and commands the praise of his brother architects. From the elevators we step into the "lobby" shown in the photograph. Here is a bit of old Pompeian decoration hung on the wall, and some odd pieces of furniture which "belong" in an unostentatious way. In the reception room two priceless old cabinets form the principal part of the furniture. Behind the doors of one are samples of fine stuffs which may be brought forth at the right moment to illustrate to a client the architect's idea of

an interior-scheme of decoration and furnishing. The other massive old Italian piece, seen in the photograph at the end of the room, with sculptured bronzed heads for drawer pulls, has a plate rack extending the full length against the wall—a convenient support for standing photographs or sketches. In this spacious reception room there is also a print cabinet in which are kept mounted rendered drawings for ready reference. A concealed lavatory in one corner of the room is balanced with a blind cabinet in which are stored plates and photographs. From the lobby one passes through the library, which is a working library. The table, which is a reminder of the one in the reception room, is only two feet wide and perhaps four feet high, and invites one standing to consult the waiting books and return to his drawing board.

Mr. Platt's private office is a sanctum of the real sort. There is a drawing table extending full length of the room with drawers beneath containing all the personal treasures which the artist wishes to preserve from the clutches of the filing fiend. At one end of this table is the designer's board with soft north light at his left. Under one window stands a flat top business desk, and five feet away on the wall is a dictophone which enables him to talk to his assistants or dictate letters without the bother of a receiver at one's ear, a bacteriological transmitter at one's mouth, or the delay of summoning a stenographer from distant regions. Next to the desk stands the couch (shown in reception room when plan was made) which comfortably invites the client to sit in private conference and beg for the privilege of obeying the behests of this gentle and apparently pliable architect.

But not until you go into the populous drafting room and past the orderly files of drawings and into the busy executive section do you realize that things are doing and that the dreams of the artist are taking shape in a most business-like way. In this executive office are engineers, specification and correspondence writers, superintendents, and a room for consultation with contractors if they need to be invited to pass the alcove table where drawings are issued. Conveniently between this table and the drafting room are what appear to be a lot of Chicago clothes driers. Pull out one section and you find it to be merely a big galvanized sheet iron drawer set on edge, with some hinged bars in the top on which are hung the drawings in sets—as many in a section as their bulk will permit. The several sets



OFFICES OF YORK AND SAWYER,
50 EAST 41ST STREET, NEW YORK CITY.

swing out of the section as if they were hung on the face of a door from its top edge, and as each set is bound between half-round clamp strips and hooked over its bar, any set can be consulted in place or removed without removing the others. The only uniformity in size of drawings required by this method of filing is that the

hangers, hats are placed on the shelf above the respective coats, and thus is formed a very simple, neat, and space-saving wardrobe.

It may be noted that the head draftsman has a private alcove in the corner of the drafting room opposite Mr. Platt's room, and a large wall space adjacent with a



LOBBY.



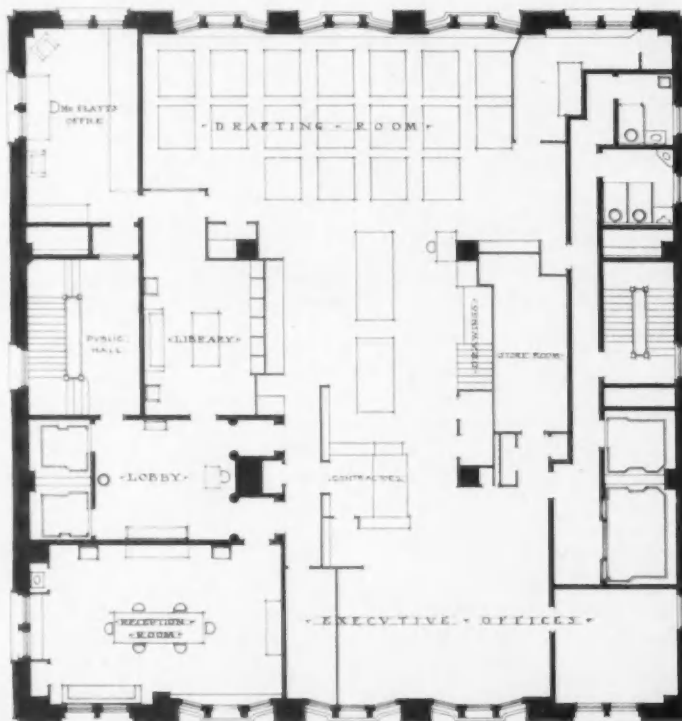
RECEPTION ROOM.

OFFICES OF CHARLES A. PLATT, 11 E. 24TH STREET, NEW YORK CITY.

greatest dimension of a sheet one way shall be 36 inches. In the other dimension it may be 6 inches, 60 inches, or any length. In such a scheme drawings are filed flat, as compactly as one may choose to pack them, and one drawing may be withdrawn or inserted without crumpling another. In Mr. Platt's office even full size details are kept within the 36 by 60 inch dimension, and details are made on bond paper which is strong enough for office usage and permits blue printing.

Even though this vertical drawer file holds drawings readily accessible, yet sets of current work drawings hang on swinging bracketed rods, located on a column or wall close to the drafting tables and are thus easily referred to in place, or any set may be lifted off and consulted on a table when desired. This device is so simple and inexpensive that it will deserve illustration later.

One of the features of this drafting room worthy of mention is a 2 foot shelf 7 feet high on the partition next the library. Ceiling hooks under the shelf support coat



thumb-tacked surface (compo board covered with cloth and tinted cream color like the other walls) is kept clear for display of full size details which thus can be studied from the full length of the drafting room.

The disposition of samples of building materials is a vexatious problem in every office. In Mr. Platt's office they are neatly arranged on the walls of the library in the alcove passage next to his room. Slabs of marble and even bricks rest on shelves in vertical pigeonholes, formed with thin wood partitions set at 45° with the wall. Each exposes enough of its edge and side for identification

and can be drawn forth for a full view.

The headquarters of Carrère & Hastings is an interesting study, not simply because it is one of the largest architectural offices in the world, but because, being newly planned after long experience in building up and organizing a successful professional business, the plan is an expression of the relation of the parts of the organization and the method of administration. The visitor may be

surprised on being told that the filing room is the central feature around which the whole office is planned. This is true evidently because this room contains the instruments of service through which the architects accomplish their work. It is the focal point for the receiving, distributing, and recording of designs, specifications, and orders. In theory every drawing, specification, order, and letter must pass through this room before it can leave the office. Conversely, every shop drawing, every sample submitted for approval, and every document returned must pass through this room before it reaches the architect or any department

and superintendents or other executives to meet him there in conference. If he is a client he is shown into the impressively large reception room which is approached from

the opposite end with equal convenience by a partner or any member of the office force; or the client can be ushered with facility to any private office for individual conference. Mr. Hastings is in immediate proximity to the reception room and the drafting room, and the working library is his studio. Even if he has visitors in conference a draftsman is at liberty to walk in, select a book, and return to the drafting room. The bookkeeping and financial center of the



FILING AND PACKAGE ROOM.



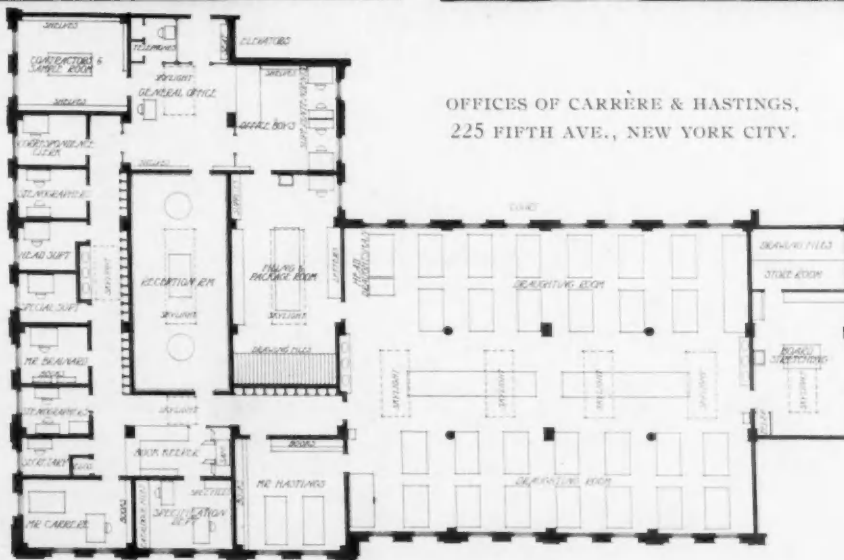
DRAFTING ROOM.



RECEPTION ROOM.

of his organization. Upon effective carrying out of this theory depends in large measure the smooth working of the office administration and the prompt issuance of information upon which depends the prompt execution of clients' work.

Referring to the plan we may note first how conveniently a caller is cared for as soon as he enters the door of the general office. If he is a contractor he finds close at hand a table on which drawings may be spread,

OFFICES OF CARRÈRE & HASTINGS,
225 FIFTH AVE., NEW YORK CITY.

office is where it should be, between the members of the firm and yet not visible from the outer office. Mr. Brainerd, the business and engineering head of the firm, is in convenient touch with Mr. Hastings and the business office and is at the same time in the midst of his executive as-

sistants. It may be remarked here that the management of the office is based on the idea that each individual should be entrusted with the charge of certain well-defined work

and then held responsible for results and that no automatic system can take the place of brains. When we find ourselves in the immense drafting room we may note that the two long detail tables in the middle of the room have drawers under, containing sketches, etc., for reference, or drawings in progress. Standing racks are ranged along between the columns, supporting drawings needed for reference by draftsmen at work.

We need scarcely refer to other interesting arrangements of the office shown clearly by the plan, such as the fine sample room which is available on occasion for contractor's use. But before leaving the file room we may remark that this room is closed to all except the most efficient young lady in charge and her assistant. The latter has a mailing desk near the window and a machine for writing up records. All drawings received from the drafting room are entered on card lists, and if a drawing is handed out to any one in the drafting room its tag with a debit entry lies in a tray until that identical drawing is returned and replaced in the file. Scale drawings are kept in the metal "clothes drier" racks at the end of the room, and full size details are folded and filed edgewise in drawers in the manner of correspondence vertical files. Miscellaneous mounted drawings, photographs, etc., are placed in ordinary flat drawers and their location recorded by card index. The issuance

and receiving of drawings, samples, etc., is recorded on thin card slips written once in duplicate and without any transcriptions, and also without requiring receipts.

A number of architects in New York have bought or leased old residences which by the shifting of business districts are favorably located. A good example of this type of office is that of Grosvenor Atterbury. Every nook of this house, which is sandwiched between business buildings and yet has good light both front and rear, appears to be busily utilized, from a contractor's room in the basement to a photographic dark room in the top story. The inquisitive visitor enters the business office and is impressed with the artistic atmosphere. Before inviting him upstairs to his private office, Mr. Atterbury calls attention to a card index saying that a "white card indicates that a drawing has been issued, and a yellow card that the receipt has not yet come back" — etc. Mr. Atterbury is famous for his model tenements and towns and other achievements, and in the profession he is famous also for his business system. With his permission we will reproduce later some of his interesting printed blanks. In the



OFFICE.



OFFICES OF GROSVENOR ATTERBURY, 20 W. 43d STREET, NEW YORK CITY.

meantime the plan herewith shows clearly the various features of this five-tiered office. Note one long dumbwaiter for drawings, another for small packages and messages; the separate drafting rooms; the picturesque sample room balcony around the well above the business office; and the tracing room in the top story where a portion of the blue printing is done. Mr. Atterbury charges clients for all blue-

prints at the regular printers' rate. One interesting feature of Mr. Atterbury's office is the presence of half a dozen skilled and efficient women draftsmen.

ARCHITECTURE is not only an art, and the long and thorough training necessary for the attainment of even a modest proficiency in its practice classes it not only as an artistic profession but as a scientific profession requiring a breadth of knowledge probably greater than is required in any other profession. The future health and

well-being of the Nation is, to a great extent, in his hands. Social progress is his care, and in the public interest, even if not in his own, the architect in whose hands the remedy lies should be surrounded by an artistic atmosphere which will eventually lead to the progress of art or the evolution of a National style of architecture. — Todd.

The Heating and Ventilation of Schools.—I.

CHARLES L. HUBBARD.

MODERN school buildings are commonly heated and ventilated in one of three ways, depending upon their size and the funds available for this part of the equipment. Buildings of four to eight rooms may be heated quite satisfactorily by means of furnaces when it is desired to keep the expense as low as possible. Indirect steam, with gravity circulation of air, is also used for buildings of this size and also in buildings up to twelve class rooms or more. Its principal advantages over furnace heating are: first, a single boiler or pair of boilers set in battery and a single coal room, while with furnace heating the best practice makes use of a separate furnace for each pair of class rooms, and as these are more or less widely separated, it complicates the storage of coal and handling of ashes as well as the work of firing; second, furnace heating usually makes it necessary to employ stack heaters to produce a sufficient draft in the vent flues, which still further complicates the work of the janitor in charge of the building.

With indirect steam the fires, storage of coal, and removal of ashes are grouped at a single point, which reduces the amount of work necessary to care for them and also adds to the cleanliness of the building. When the cost does not prohibit, it is advisable to use the fan system in buildings of eight rooms and over, as the results are so much more uniform, both as to air supply and temperature. When the cost of operation is taken into account the expense of a fan system is not so very much more than the indirect gravity. The radiation is more efficient, due to the greater velocity of the air over it, hence less is required; again, vent-flue heaters are not required, which both lessens the first cost and the amount of fuel for operating.

The present article will deal with buildings of eight rooms and less, employing furnaces or indirect steam heat.

The Massachusetts law calls for a minimum air supply of 30 cubic feet per pupil per minute, while it is customary in high schools to provide a ventilating apparatus capable of supplying 50 cubic feet. In the present article, which

applies more especially to grammar schools, a basis of 40 cubic feet per pupil per minute will be assumed in proportioning the various parts of the apparatus. A standard class room usually accommodates a maximum of 50 pupils, which calls for an air supply of $50 \times 40 = 2,000$ cubic feet of air per minute.

In proportioning the size of the warm-air supply flues it is customary to assume an average velocity of 300 feet per minute to the first-floor rooms, and 350 feet per minute to the second floor. This in round numbers calls for flue areas of 7 square feet and 6 square feet respectively. The vent flues may be made the reverse of this, that is, 6 square feet from the first-floor room and 7 square feet from the second. The reason for this variation in flue area is because with a given difference in temperature between the external air and that in the flue, the velocity of flow will increase with the height of flue.

The area of the cold-air inlet may be made the same as the total of the warm-air flues connecting with the furnace or heating stack, and means provided for throttling the air supply in windy weather. The above data applies to both furnace and indirect steam heating, and can be used in either case equally well. In the case of a furnace-heated building the next step is to compute the required grate area for both heating and ventilation. In doing this it is customary to provide a separate furnace for each two class rooms.

The heat loss from a standard corner class room, having the usual proportion of glass, and of average construction, may be taken as 30,000 heat units per hour for northerly rooms, and 20,000 for southerly rooms. The heat required for warming the air for ventilation may be found by multiplying the air supply per hour by 1.3, when its temperature is to be raised from 6° to 70° . This calls for $2,000 \times 60 \times 1.3 = 156,000$, or

in round numbers 160,000 heat units per hour, making a total of $160,000 + 30,000 = 190,000$ heat units for northerly rooms, and $160,000 + 20,000 = 180,000$ for southerly rooms. A good furnace of large size should burn economically 7 pounds of coal per square foot of grate per hour, and each

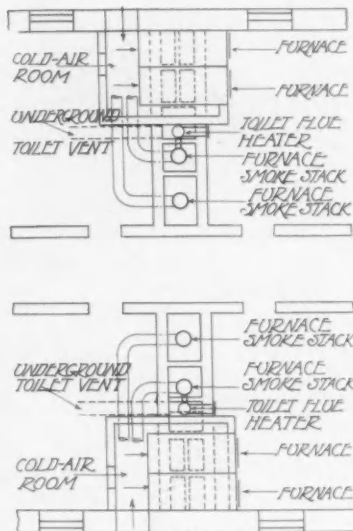


FIG. I.

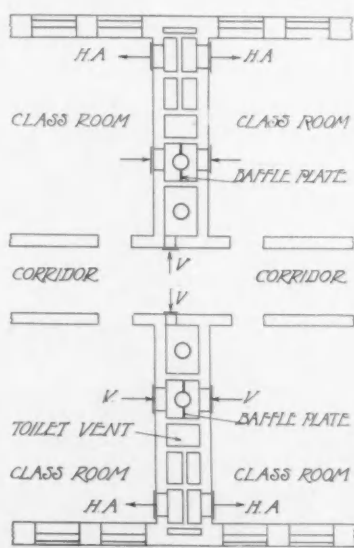


FIG. II.

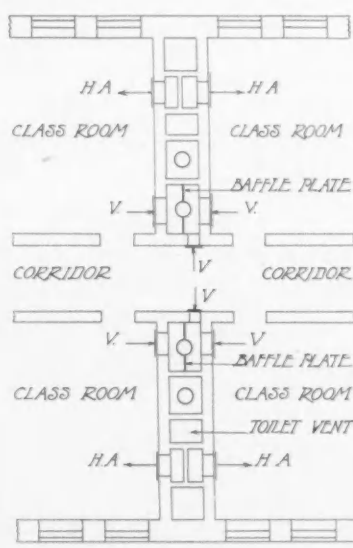


FIG. III.

pound of coal gives off approximately 13,000 heat units, of which about 8,000 are absorbed by the passing air and do useful work. Under these conditions, $\frac{190,000}{7 \times 8000} = 3.5$ square

feet of grate surface are required for each northerly class room, and $\frac{180,000}{7 \times 8000} = 3.2$ square feet for

each southerly room. On this basis it is customary to use a furnace having from 7 to 8 square feet of grate surface for each pair of northerly rooms, and 6 to 7 square feet for each pair of southerly rooms. Corridors, coat rooms, teachers' rooms, etc., may be heated either by a separate furnace, or better, by enlarging the class room furnaces on a basis of 1.5 square feet of grate surface for each 10,000 cubic feet of space to be heated. Although the usual form of cylindrical house-heating furnace may be adapted to schoolhouse work, it is more common to use a furnace with an extended heating surface and especially adapted to this class of work. Furnaces of this type are often of the general form of a locomotive boiler and are enclosed in a brick setting.

The small stoves, or stack heaters, placed in the vent flues from the class rooms, should each contain a grate area of at least one square foot.

Figs. I to VI inclusive show a typical furnace layout for an eight-room school building which contains some points of interest as simplifying a system of this kind. The first and second floor plans, Figs. II and III, show the general arrangement of the flues, which are constructed of brick on account of their close proximity to the furnaces and smoke stacks. The supply flues discharge the warm air into the rooms near the outside walls, which is desirable both from a heating and ventilating standpoint. The flues leading to the first floor are insulated from the outside wall by an air space, as shown. The vent flues are located near the corridor walls, an arrangement which gives a good circulation to the air supplied for ventilation and also assists in heat distribution. The corridors are provided with discharge ventilation, as shown; fresh air being obtained partly by leakage and through the frequent opening of outside doors, and partly through hot-air registers not shown in the cut. The flues are so grouped that the furnaces may be placed in two batteries as shown on the basement plan, Fig. I; thus reducing the labor of firing and cleaning. Each battery of furnaces is enclosed in a cold-air room with a large inlet at the rear, as indicated by the arrows. From here it flows into the furnace casing at the floor through special openings provided for this purpose. This is made clearer in Fig. IV, which represents a longitudinal section through one of the cold-

air chambers, and shows the galvanized iron connections between the top of the furnace casing and the bottoms of the brick uptake flues, which start at the level of the first floor. The flues are spread apart before entering the furnace casing so that the cold air admitted by the mixing dampers will pass up the back of the flues and thus be delivered at the tops of the registers, a condition which is always desirable for reasons stated in a previous article. The outside air enters through a large opening at the rear and passes beneath the furnaces through openings near the floor, as indicated.

A cross-section through a cold-air room and pair of furnaces is shown in Fig. V, and illustrates the passage of the air from the main supply chamber into the spaces surrounding the furnace, also the connections between the furnace casings and the brick flues.

With this arrangement the left-hand furnace supplies the two first-floor rooms on that side of the building, and the right-hand furnace the two upper rooms. The other side of the building is symmetrical with this, and the arrangement practically the same.

No method is shown for warming the corridors. This may be done by carrying over pipes from the two nearer furnaces, enlarging the grate areas correspondingly, or a separate furnace may be used.

Temperature regulation is obtained by the use of mixing dampers at the bases of the flues as shown in Figs. IV and V. Special attention is called to the method of heating the vent flues without employing additional stack heaters for this purpose. This consists in providing a separate steel smoke stack for each furnace, as indicated in Figs. I, II, and III. These stacks are carried up in a brick vent flue which serves two class rooms. Sound is prevented from passing from one room to the other by the use of heavy galvanized iron baffle plates, or deflectors, shown in plan in Figs. II and III, and in elevation in Fig. VI, which is a vertical section through a pair of vent flues and shows the two smoke stacks supported at their centers. The main toilet vents are heated by special stack heaters as shown in Fig. I, and in section in Fig. V. The ducts leading from the fixtures are of brick or cement and are carried beneath the basement floor as indicated. If a special furnace were used for warming the corridors its smoke stack might be used for heating a main toilet vent centrally located, with which both of the basement toilets could be connected.

The layout shown is simply one of many which may be used to good advantage, but it serves to bring out some of the important points to be kept in mind when designing a system of this kind, viz., grouping the hot-air flues so the furnaces may be operated

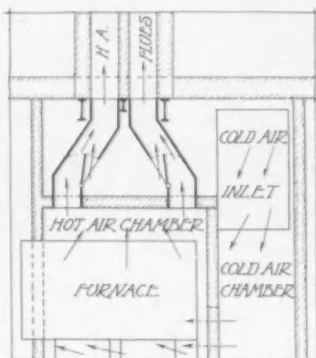


FIG. IV.

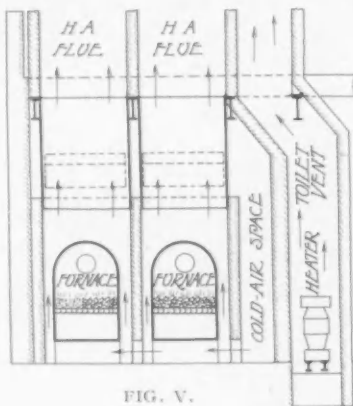


FIG. V.

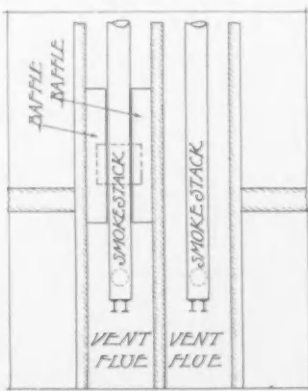


FIG. VI.

in batteries, and the utilization of steel smoke stacks for heating vent flues, thus avoiding the multiplication of fires, so far as possible.

In the case of indirect steam heating, the sizes of flues and the quantity of air may be taken the same as for furnace heating, also the amount of heat to be supplied per class room.

Indirect cast-iron radiators, commonly known as "school pin," and rated at 12 to 15 square feet of heating surface per section, are well adapted to this purpose. Heaters of this type may be counted upon to give off at least 650 to 700 heat units per square foot of surface per hour, which calls for $\frac{190,000}{650} = 300$ square feet for northerly class rooms, and $\frac{180,000}{650} = 280$ square feet for southerly rooms, for both heating and ventilating.

Sometimes the indirect stacks are only made large enough to heat the air for ventilation in zero weather, and the heat loss by transmission through walls and windows is provided for by placing direct radiation in the rooms. When this is done the higher efficiency (700) may be used in computing the size of stacks, because the final temperature of the air will be less (70°) and the flow of heat from the radiating surface to the air will be greater. Under this condition each room should have $\frac{160,000}{700} = 230$ square feet of indirect surface. The direct radiating surface may be based on an efficiency of 250 heat units per square foot of surface per hour if circulation coils are used, which

calls for $\frac{30,000}{250} = 120$ square feet in northerly rooms, and $\frac{20,000}{250} = 80$ square feet in southerly rooms. This corresponds very nearly to six and four lines respectively of $1\frac{1}{4}$ -inch pipe around the two outside walls beneath the windows.

With this combination of direct and indirect surface it will be possible to both heat and ventilate the building with the indirect surface when

the outside temperature is above 30 degrees or so, using the direct coils simply for quick warming in the morning, and in the coldest weather as may be required. The direct surface may also be used when heat only is required without ventilation.

The indirect stacks should be divided into three separately valved sections and provided with mixing dampers. When both heating and ventilation is done by the stacks the doors of the corridors and the cold-air rooms should be so arranged that air may be circulated within the building for quick warming and also when ventilation is not required.

The main halls or corridors are commonly heated by means of foot-warmers, so called, which are indirect stacks similar to those used for the class rooms, placed beneath floor registers. Two foot-warmers, containing about 150 square feet of surface each, will usually be sufficient for warming both lower and upper corridors, the heated air passing up the stairways to the latter. If there is a good deal of exposed window surface at the ends of the corridors, direct surface may be added, in the ratio of 1 square foot to each 5 square feet of glass.

Foot-warmers should be arranged to take their air supply either from out of doors or from the basement, by turning a switch damper. Small rooms heated entirely by direct surface may have cast-iron radiators proportioned in the ratio of 1 square foot of surface for each 3 square feet of glass, and the same for each 8 square feet of wall. This is for southerly rooms and should be increased thirty per cent for a northerly exposure. If cast-iron sectional boilers are used there should be 1 square foot of grate surface for each 80 feet of indirect radiation; each square foot of direct surface being counted as .5 of a foot of indirect, which gives a considerable margin of safety. When tubular boilers are used,

there should be 1 horse-power for each 45 square feet of indirect radiation, counting direct surface as already stated.

The vent flues from class rooms should each be provided with an open form of aspirating coil containing from 30 to 40 square feet of heating surface. These coils should be placed just above the vent openings from the rooms, with shut-off and air valves in the basement. A typical layout for an eight-

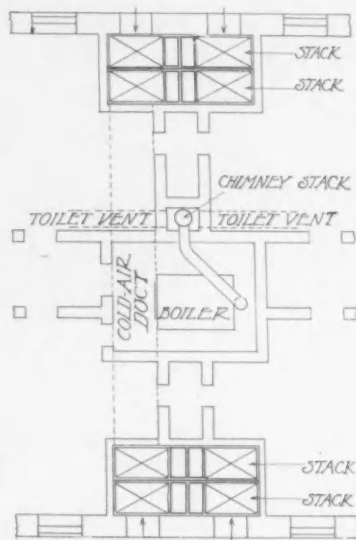


FIG. VII.

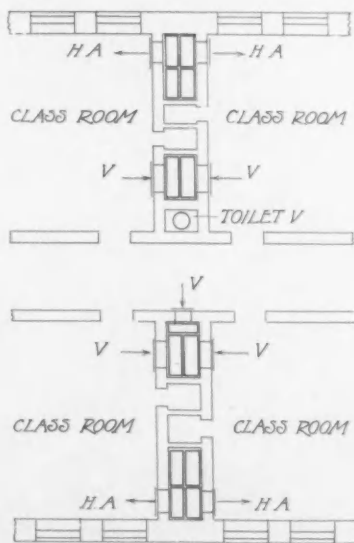


FIG. VIII.

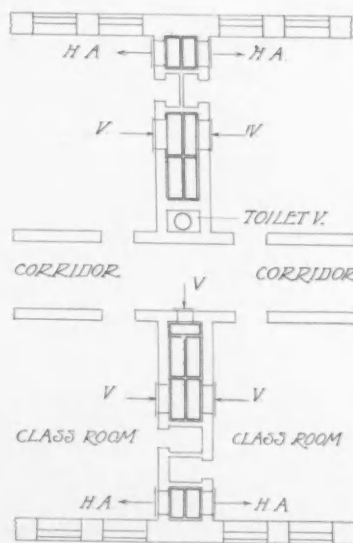


FIG. IX.

room school, heated and ventilated by indirect steam radiation, is shown in Figs. VII, VIII, and IX. In this case the flues are of galvanized iron, except the main toilet vent, which is of brick. This material makes a light construction and requires no basement support, being

carried by the floor construction at the different stories. Flues of this material take up less room than brick and have a smooth interior. When steam is used the temperature at the stacks is lower than around the furnaces, hence less care is required in connection with the fireproofing in wooden buildings. Although brick chambers and flues have some advantages in connection with furnace heating, this construction is not at all necessary, provided suitable precautions are taken against fire in the installation of sheet-iron flues and connections.

The basement plan, Fig. VII, shows two cold-air chambers, each connecting with four supply flues and containing four indirect stacks. A section through one of these is illustrated in Fig. X, and shows two of the stacks with their connecting flues. The stacks are suspended from the ceiling a distance slightly greater than the width of the flue and provided with mixing dampers, as shown. With the arrangement indicated, the cold air passes up the backs of the flues and so into the rooms at the tops of the registers. The flues are extended a couple of feet or so below the bottoms of the stacks so as to insure a supply of cold air at outside temperature. If the flues start on a line with the stacks, the air in mild weather is likely to become considerably heated by blowing across the bottoms of the heaters before entering the flues, thus making it difficult, at times, to maintain a sufficiently low temperature in the rooms. The fresh outside air enters through two inlet windows, as shown. The efficiency of the system would be somewhat improved by connecting the two air chambers by a duct having an area equal to at least three of the hot-air up-takes. This duct could be carried underground with the present location of the boiler, or an overhead duct could be used by changing the position of the smoke connections or carrying the duct at one side of the center, as indicated by dotted lines. If a connecting duct were used it would be necessary to place air-checks over the inlet windows to prevent the cold air from blowing entirely through the building. If the basement ceiling is of fire-proof construction, or of wire lath and plaster, no special lining will be needed above the heating stacks; otherwise, the ceilings of the hot-air chambers should be tinned or covered with light galvanized iron.

Figs. VIII and IX show the general positions of the flues on the different floors. As the first-story supply flues next the outside wall do not extend more than 8 feet above the floor there is ample room to offset the second-story flues to a location near the outer wall, thus giving space for closet room on the upper floor, as seen in Fig. IX. When carrying up flues in this way they should be kept a distance of 4 to 6 inches from the outer wall, and it is well to protect the exposed side with some good form of insulating material. The corridors are heated by means of foot-warmers (not shown) and vented into a special duct as indicated.

A brick flue is provided for general toilet ventilation near the center of the building, and heated by the boiler-smoke stack, which is carried up inside it. This utilizes the waste heat from the stack and takes the place of a special aspirating coil. The two main basement toilets are connected with this flue by means of underground ducts shown in dotted lines in Fig. VII.

The vent flues, as arranged, would probably be brought into a common chamber in the attic provided with an outboard shaft, having an area about 0.7 that of the combined areas of all the flues connecting with it. A damper should be provided in this outboard shaft with means for operating from the basement. The toilet vent, however, should be carried up separately past the damper, and end at a point on a level with the top of the main flue. Probably the best arrangement in the present case would be that shown in Fig. XI, with the brick vent flue at the center and a galvanized iron or copper flue on each side. Mention has already been made of the main outboard flue for toilet ventilation and the different methods of heating it to

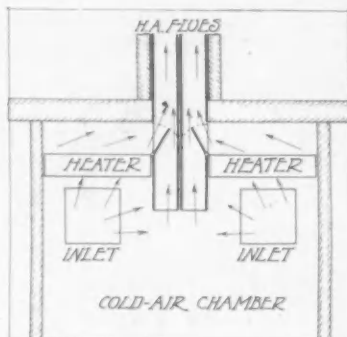


FIG. X.

produce the desired velocity of flow through it, especially in mild weather. Of equal importance with this flue itself are the methods of connecting the fixtures with it. One of the best arrangements, everything taken into consideration, is to provide a closed chamber at the rear of the fixtures, from 12 to 15 inches in depth and as high as the marble or slate partitions between the closets will allow. This space provides room for the soil pipe and its connection with the fixtures as well as a ventilating chamber, and therefore serves a double purpose. The local vent

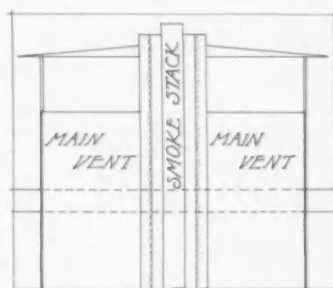
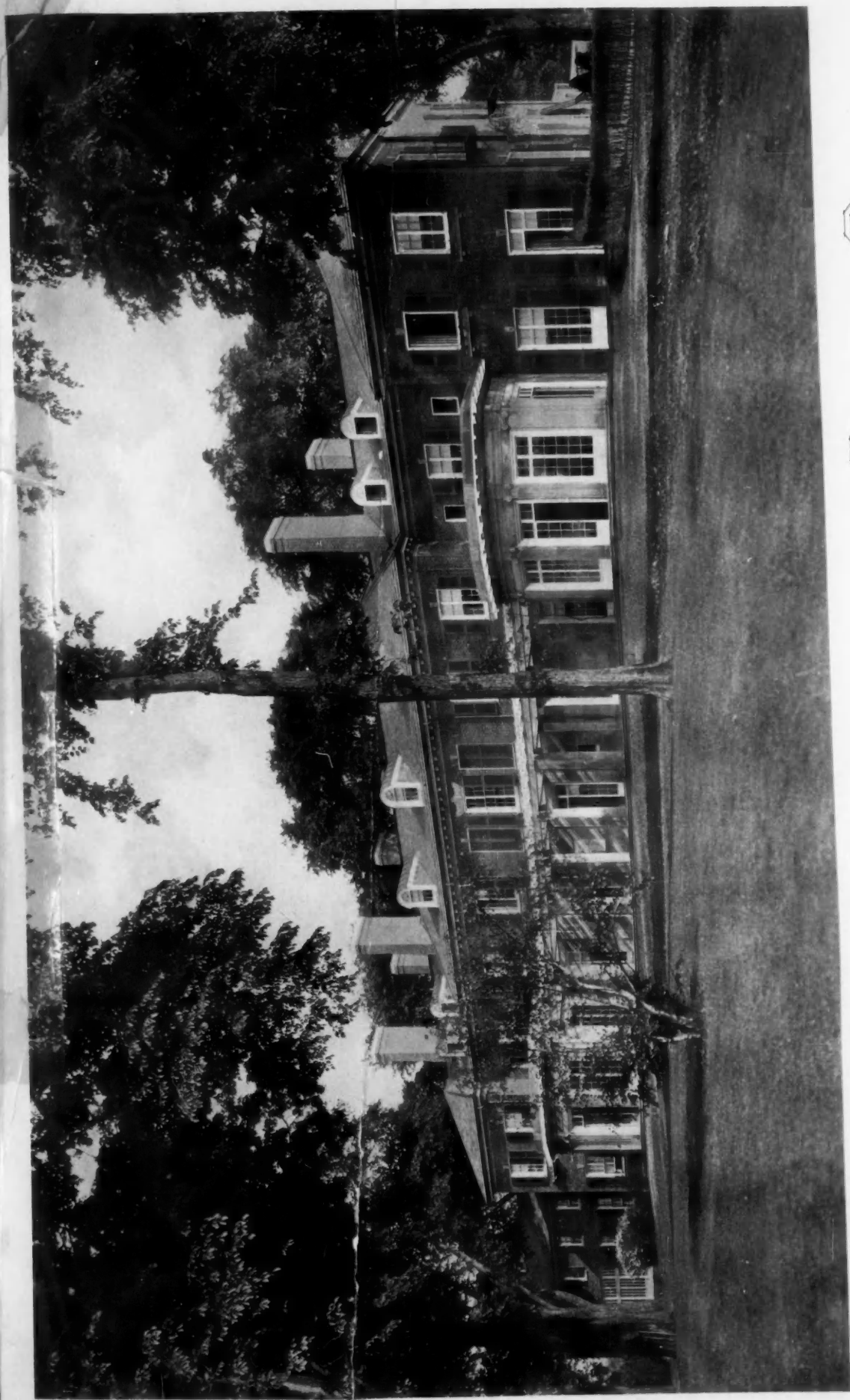


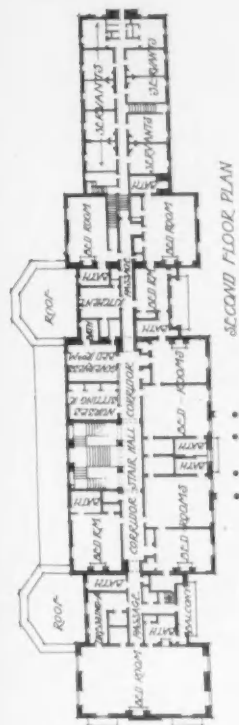
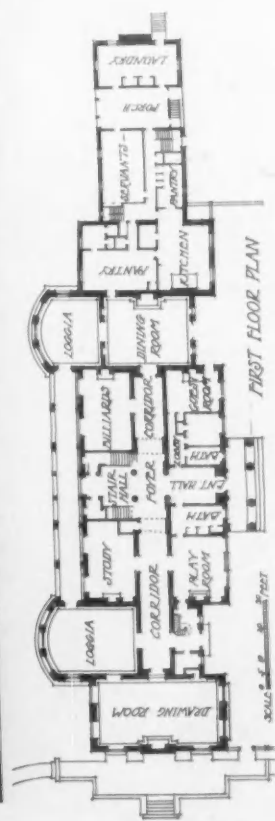
FIG. XI.

from each fixture, both closets and urinals, is connected by a neat copper pipe with the chamber, and a duct, either underground or overhead, having an area equal to the total sectional area of all the local vents connecting with it is carried from the chamber to the main uptake flue. This space need not necessarily be air-tight, as all leakage is inward when the flue is in operation. Sometimes a register, about 10 by 12 inches, is provided in the far end of the chamber to provide a certain amount of general ventilation for the room in addition to that through the fixtures. This register, however, should be provided with valves so it may be closed if desired, as it is best, so far as possible, to throw the greater part of the discharge from the room through the fixtures, in order to carry off all odors before they have a chance to enter the air of the room. Toilet rooms should not have an air supply other than that which is drawn in by the slight vacuum due to the aspirating effect of the vent flue.

This is usually provided for by means of grilles or louvres in the lower panels of the door, or by a space, 6 or 8 inches in height, under the door, made by shortening it. In mild weather this may be provided for by opening the windows.

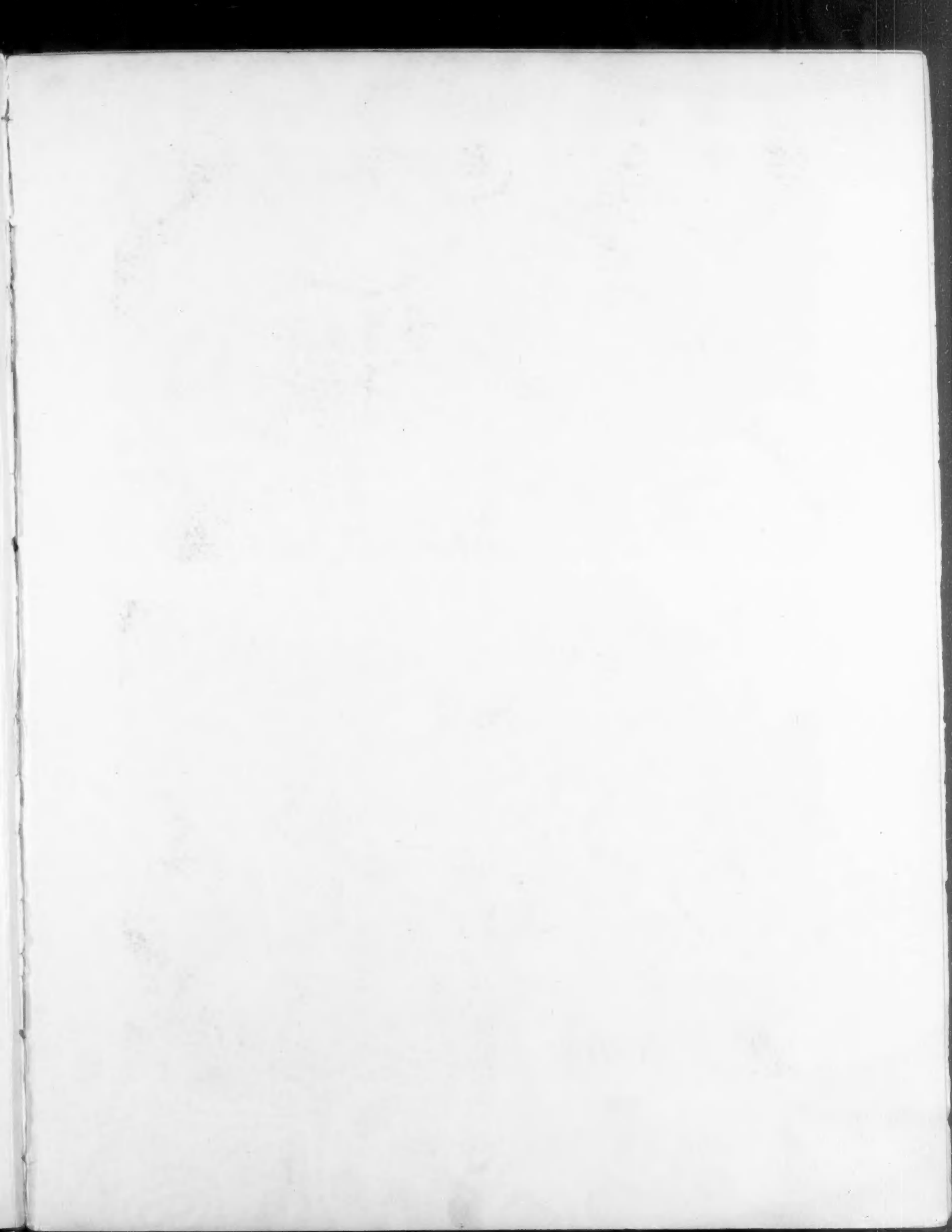


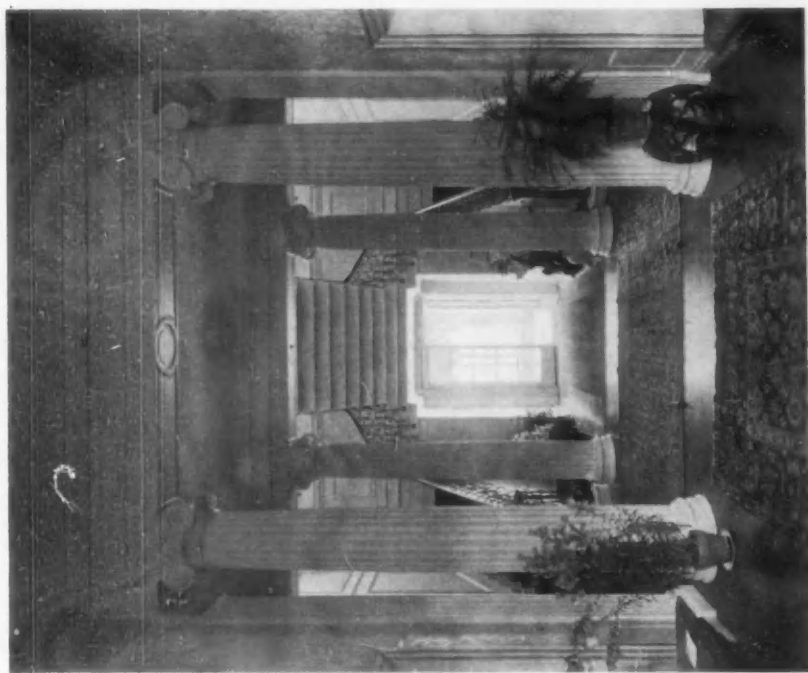
THE MANOR HOUSE,
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LONG ISLAND, N. Y.
CHARLES A. PLATT, ARCHITECT.



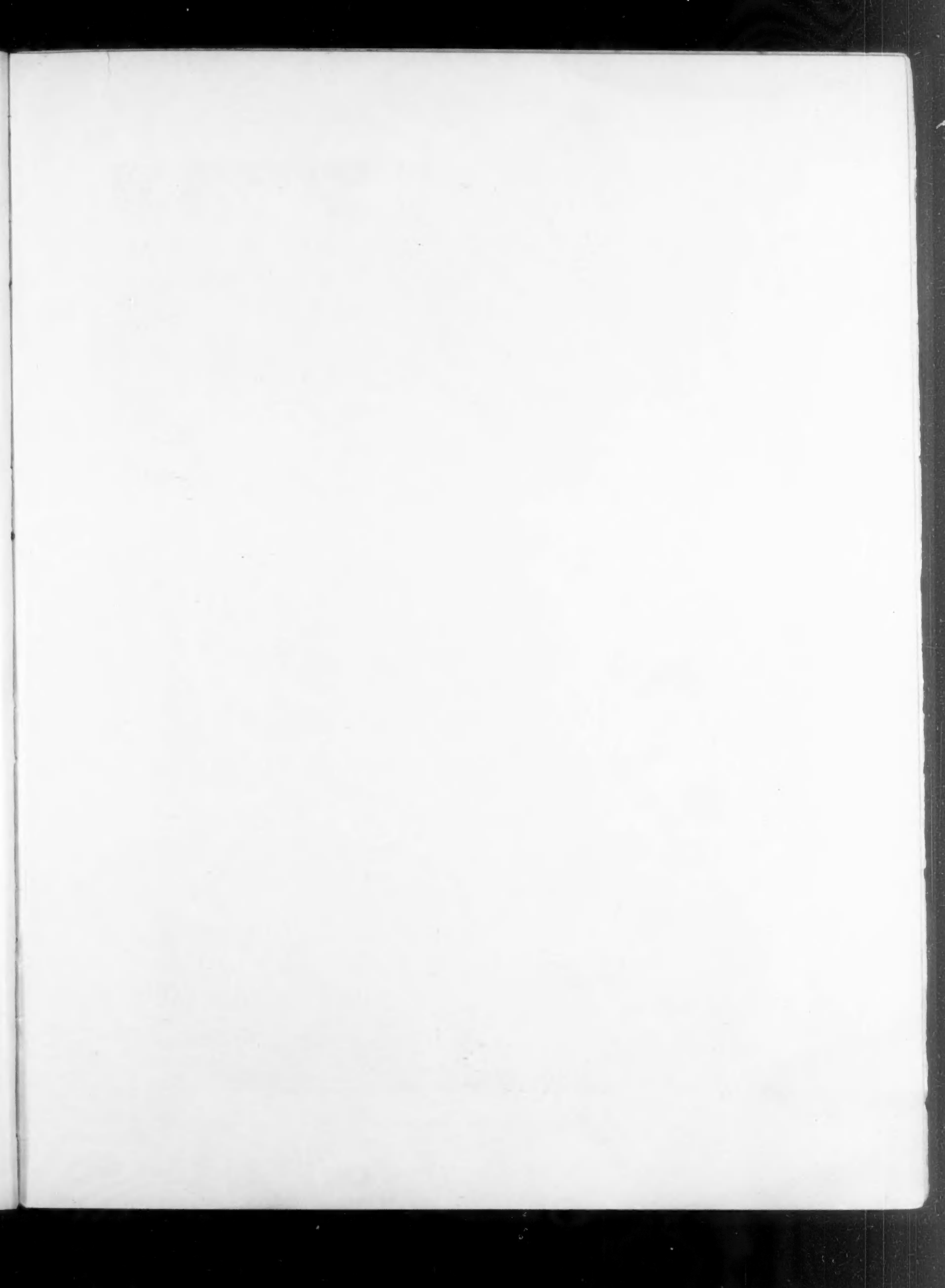


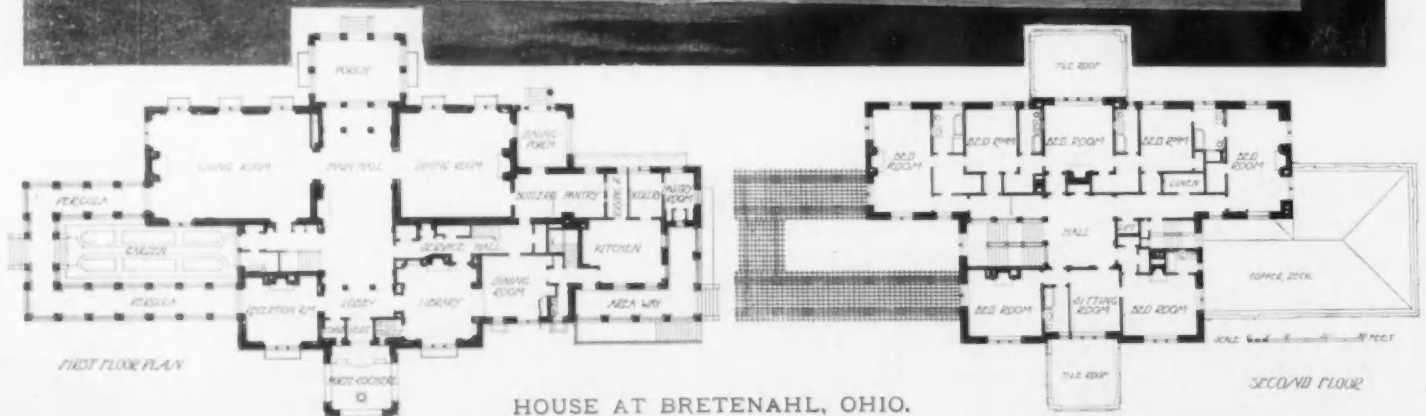
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CHARLES A. PLATT, ARCHITECT.





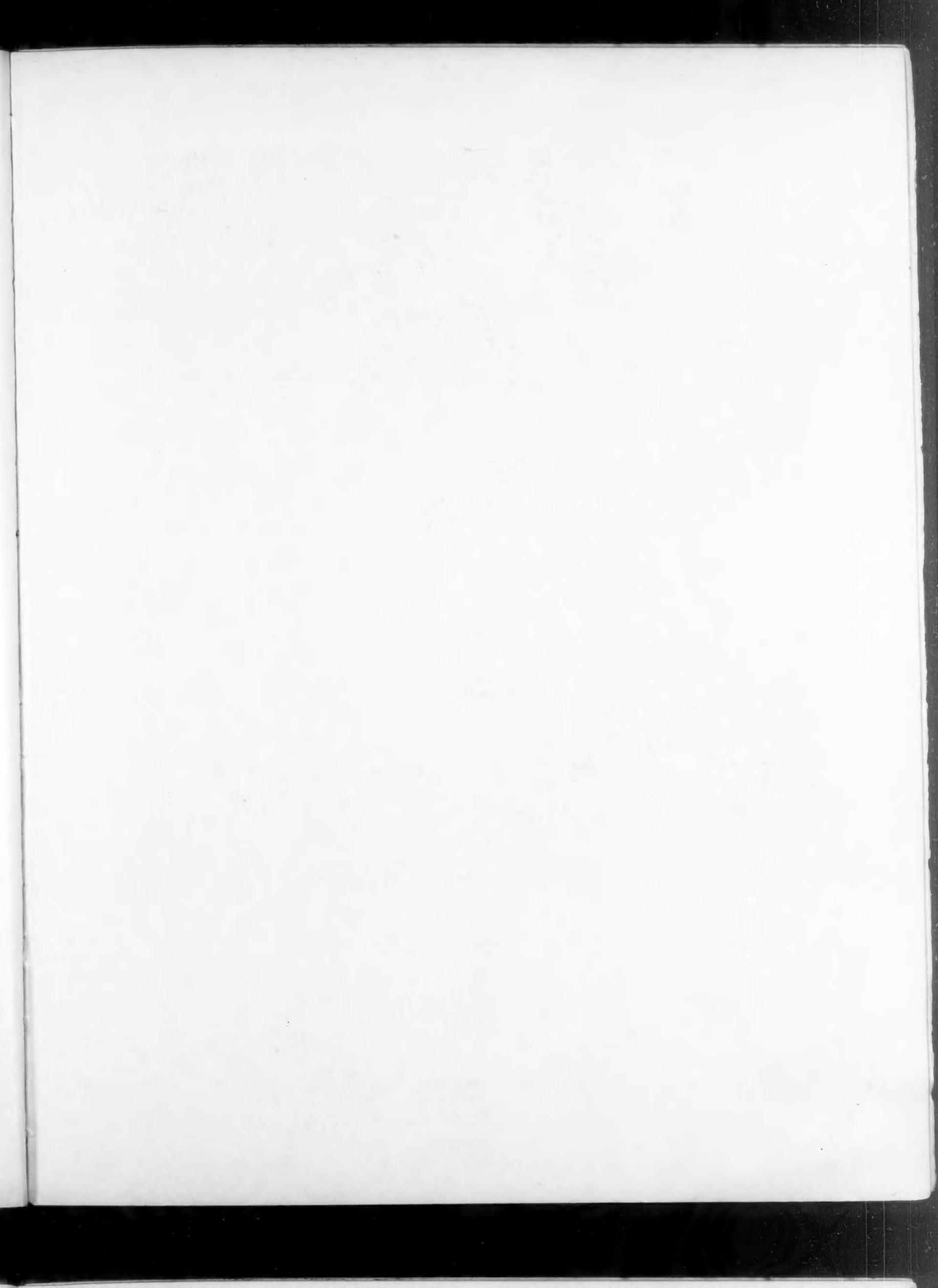
EXTERIOR AND INTERIOR VIEWS.
THE MANOR HOUSE, GLEN COVE, LONG ISLAND, N. Y.
CHARLES A. PLATT, ARCHITECT.

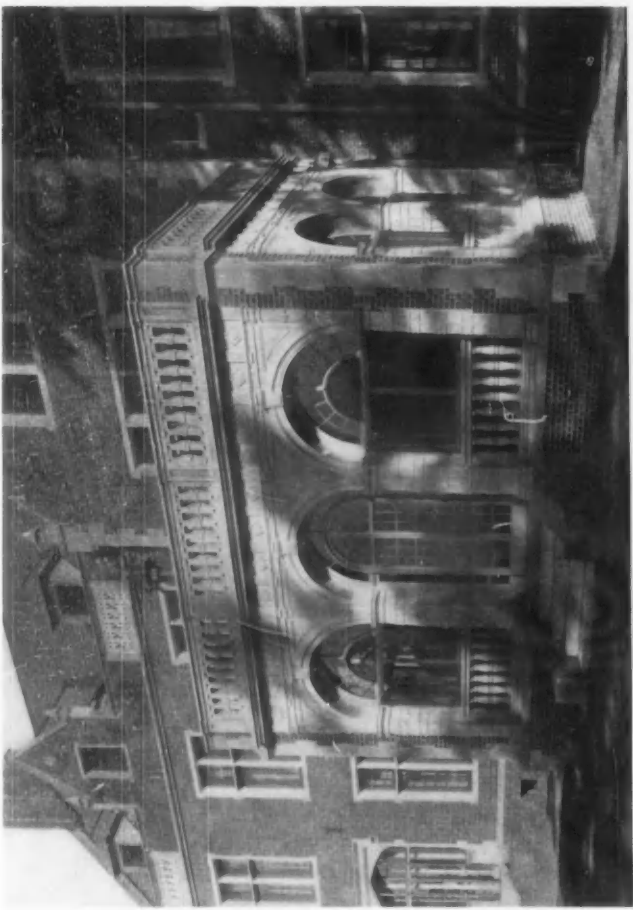




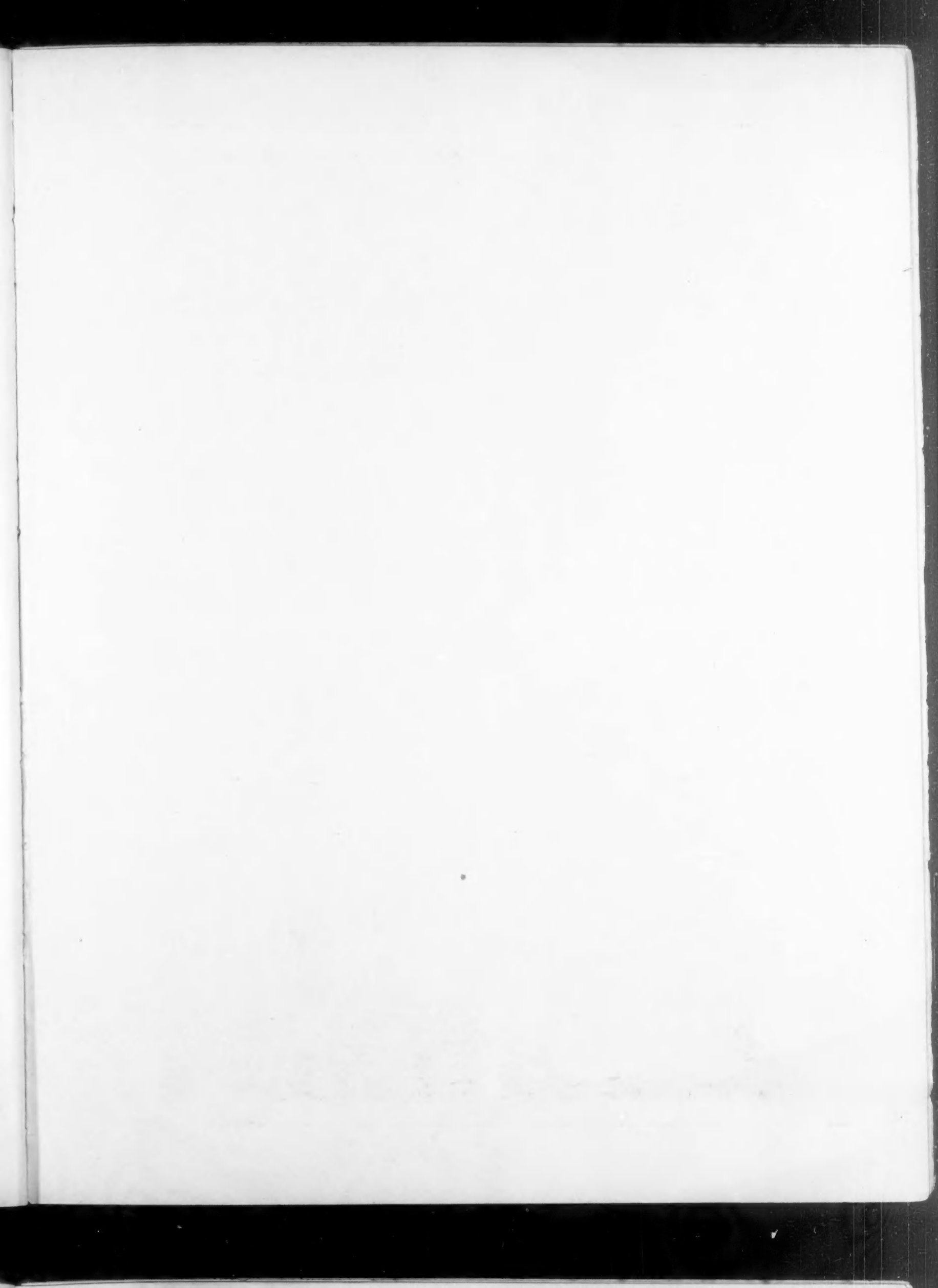
HOUSE AT BRETENAHL, OHIO.

MCKIM, MEAD & WHITE, ARCHITECTS.





EXTERIOR AND INTERIOR VIEWS, HOUSE AT BRETENAH, OHIO.
MCKIM, MEAD & WHITE, ARCHITECTS.

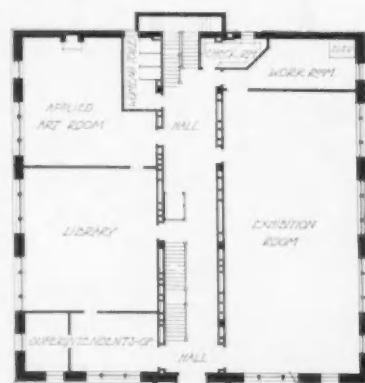
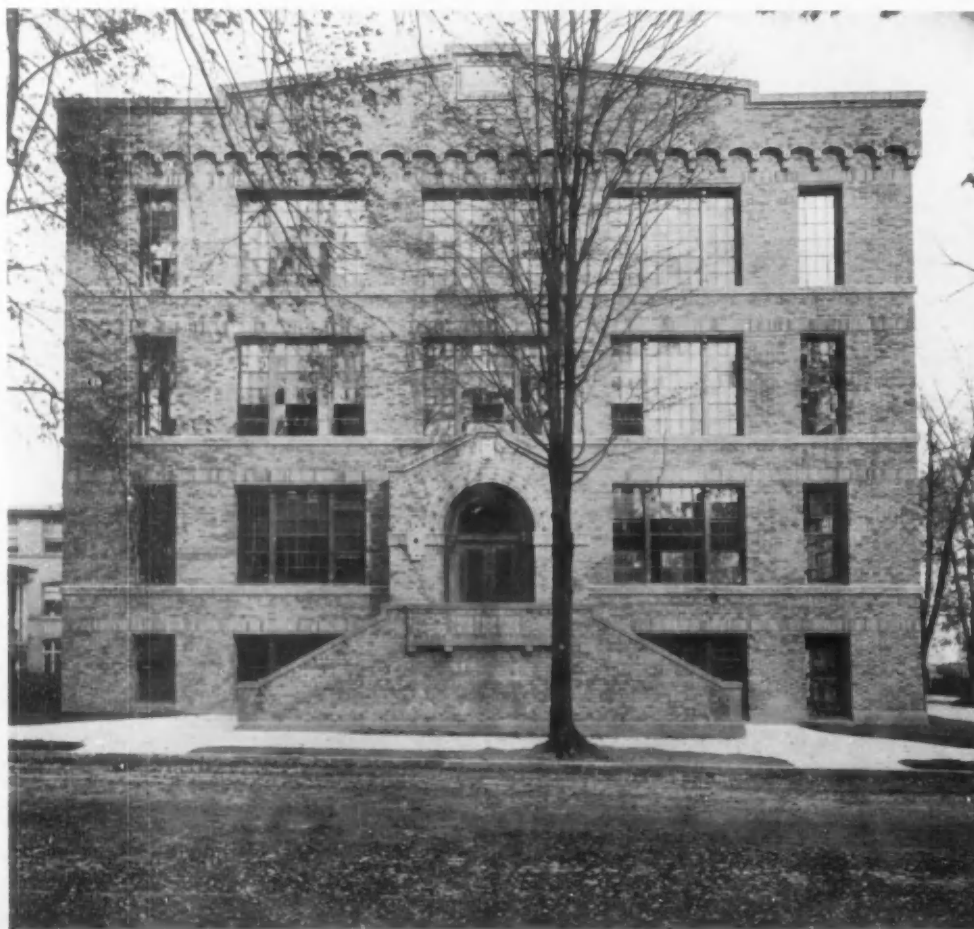
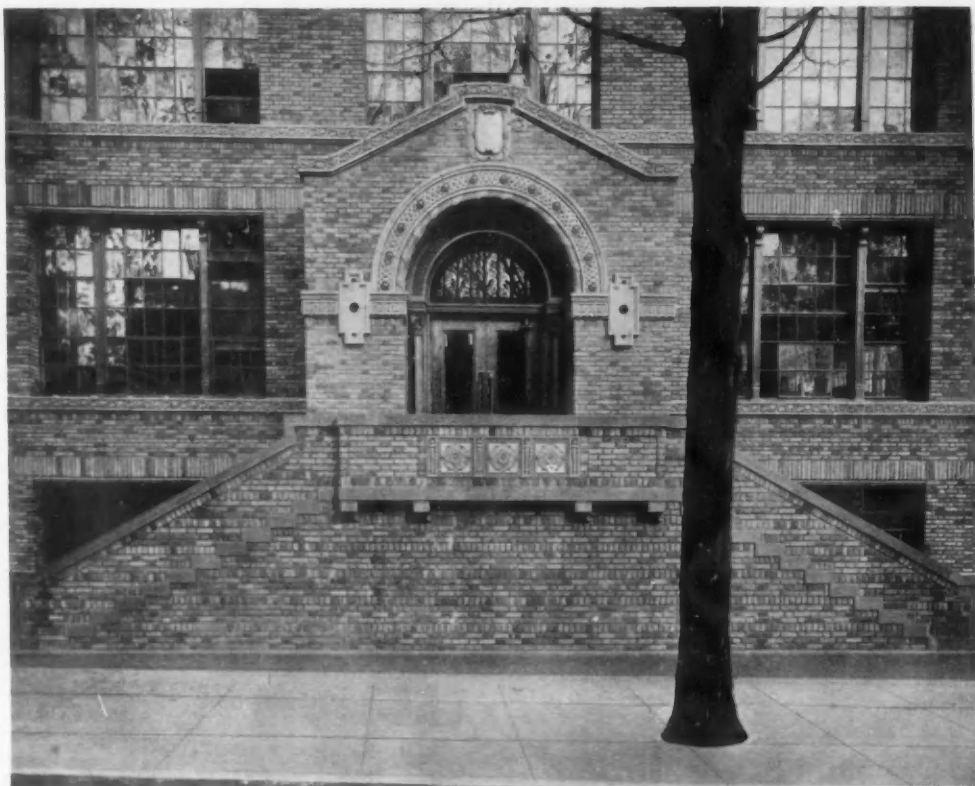




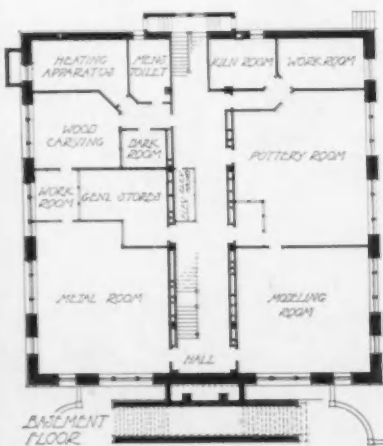
THIRD FLOOR PLAN



SECOND FLOOR

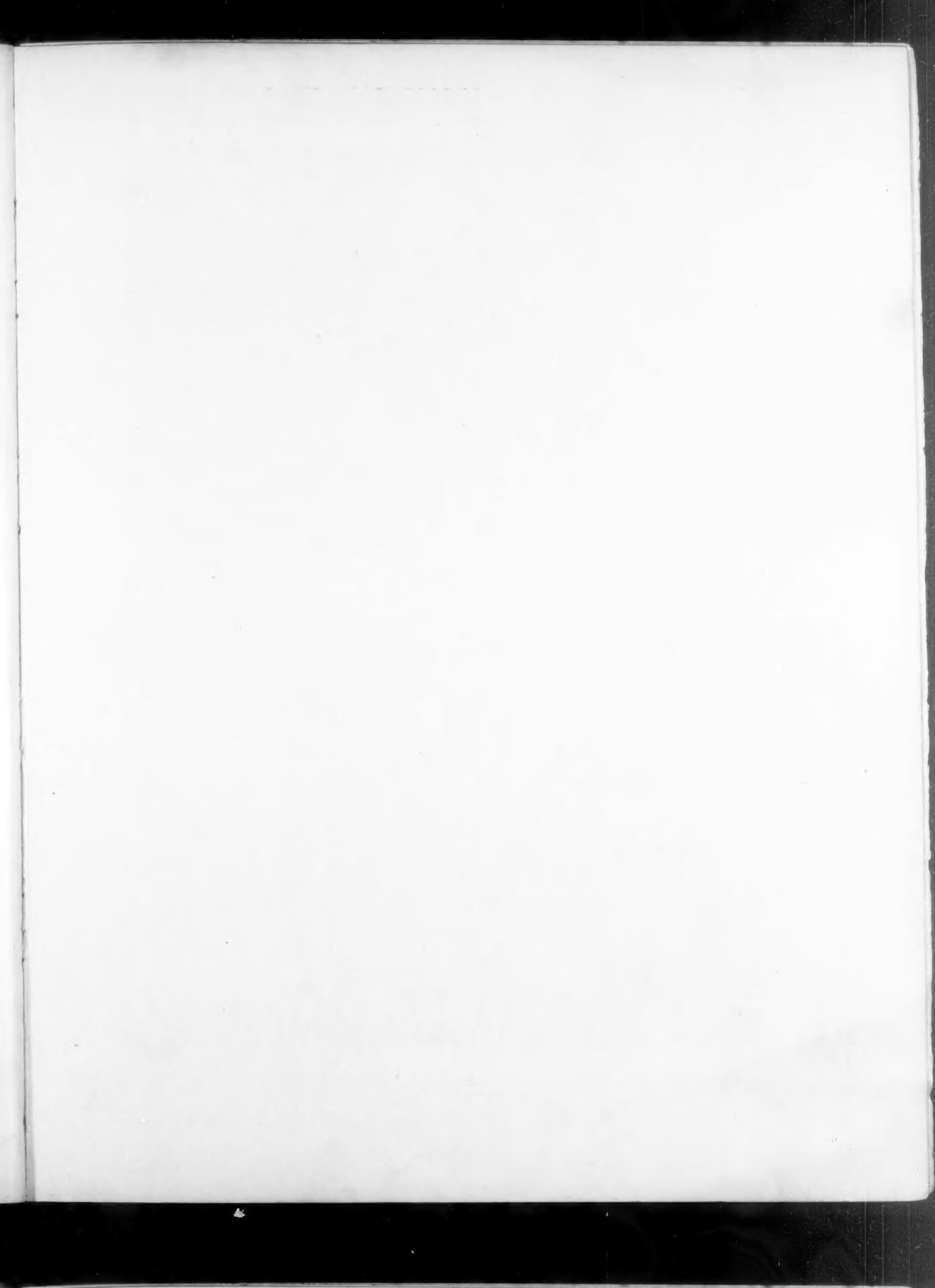


FIRST FLOOR PLAN



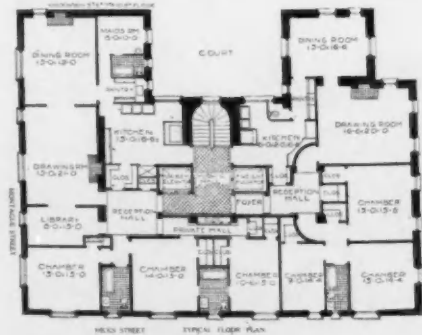
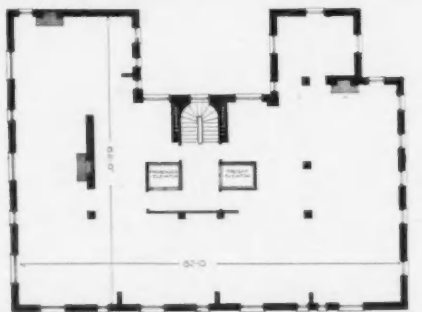
BASEMENT FLOOR

BEVIER MEMORIAL BUILDING OF THE MECHANICS INSTITUTE, ROCHESTER, N. Y.
CLAUDE BRAGDON, ARCHITECT.

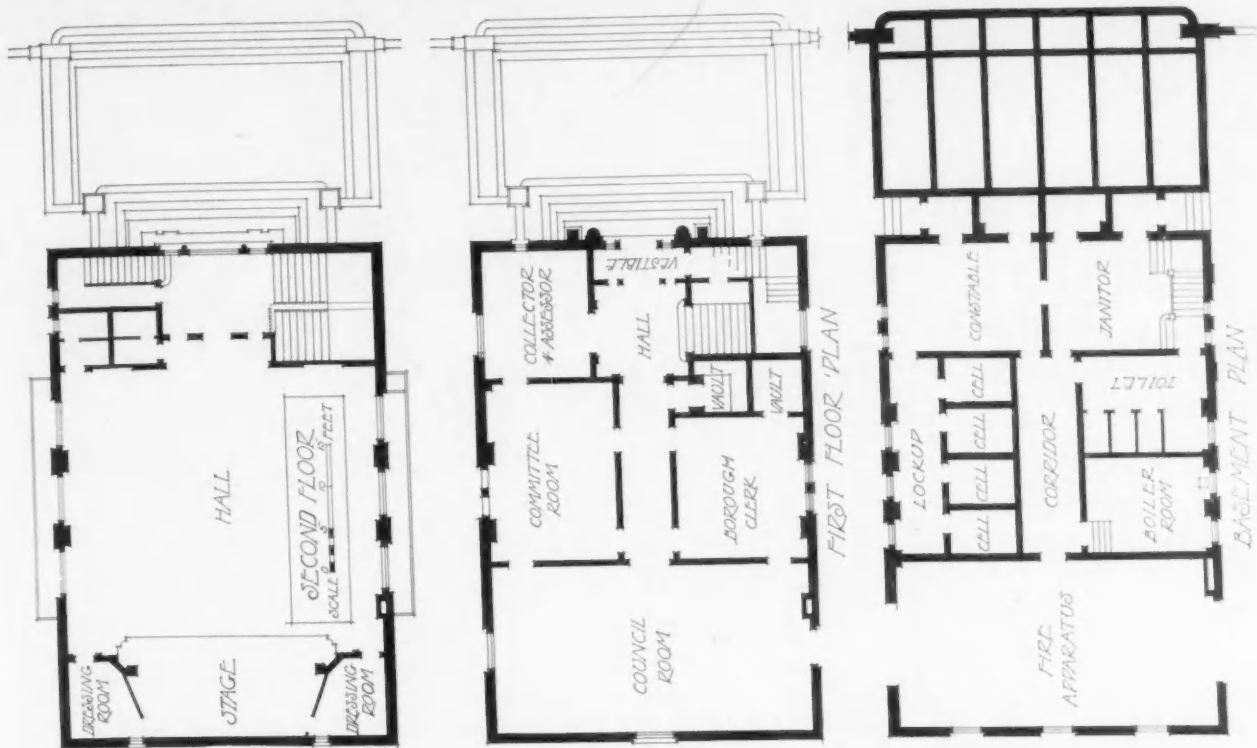




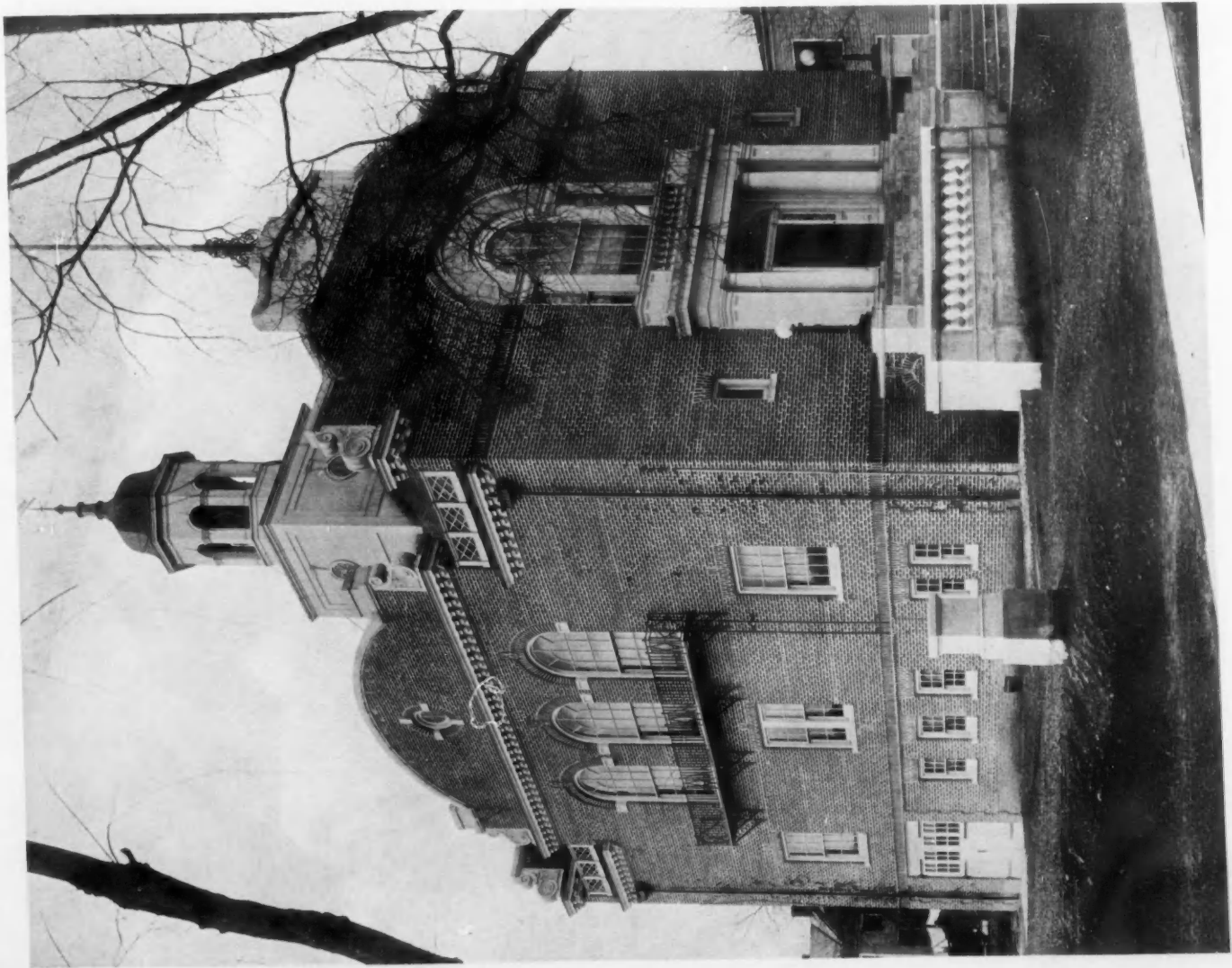
APARTMENT HOUSE, BROOKLYN, N. Y.
WILLIAM A. BORING, ARCHITECT.

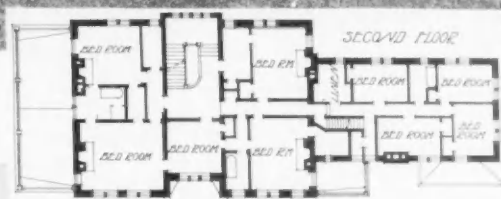
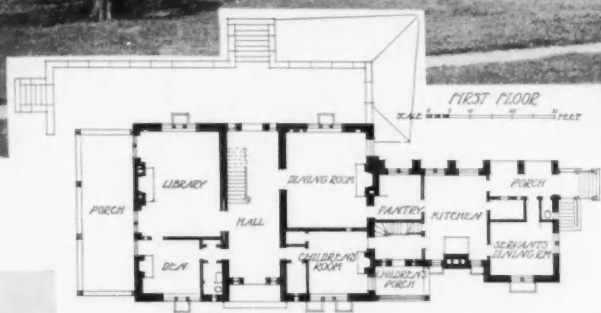


APARTMENT HOUSE, BROOKLYN, N. Y.
WILLIAM A. BORING, ARCHITECT.

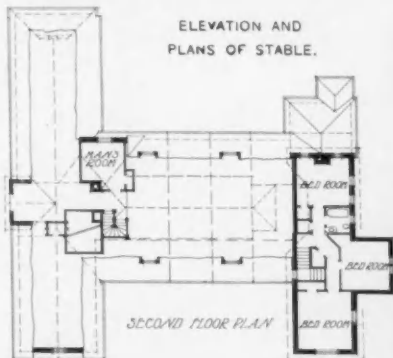


BOROUGH HALL, ROSELLE, N. J.
WARRINGTON G. LAWRENCE, ARCHTCT.



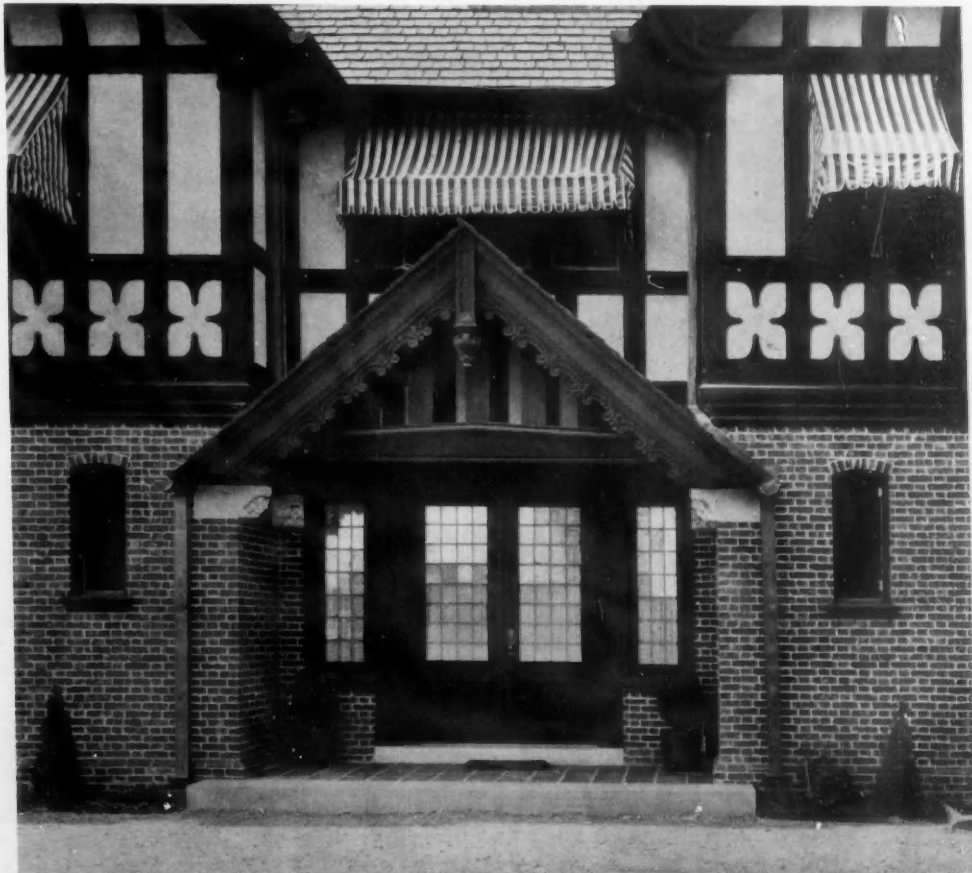


HOUSE AT JENKINTOWN, PA.
COPE & STEWARDSON, ARCHITECTS.

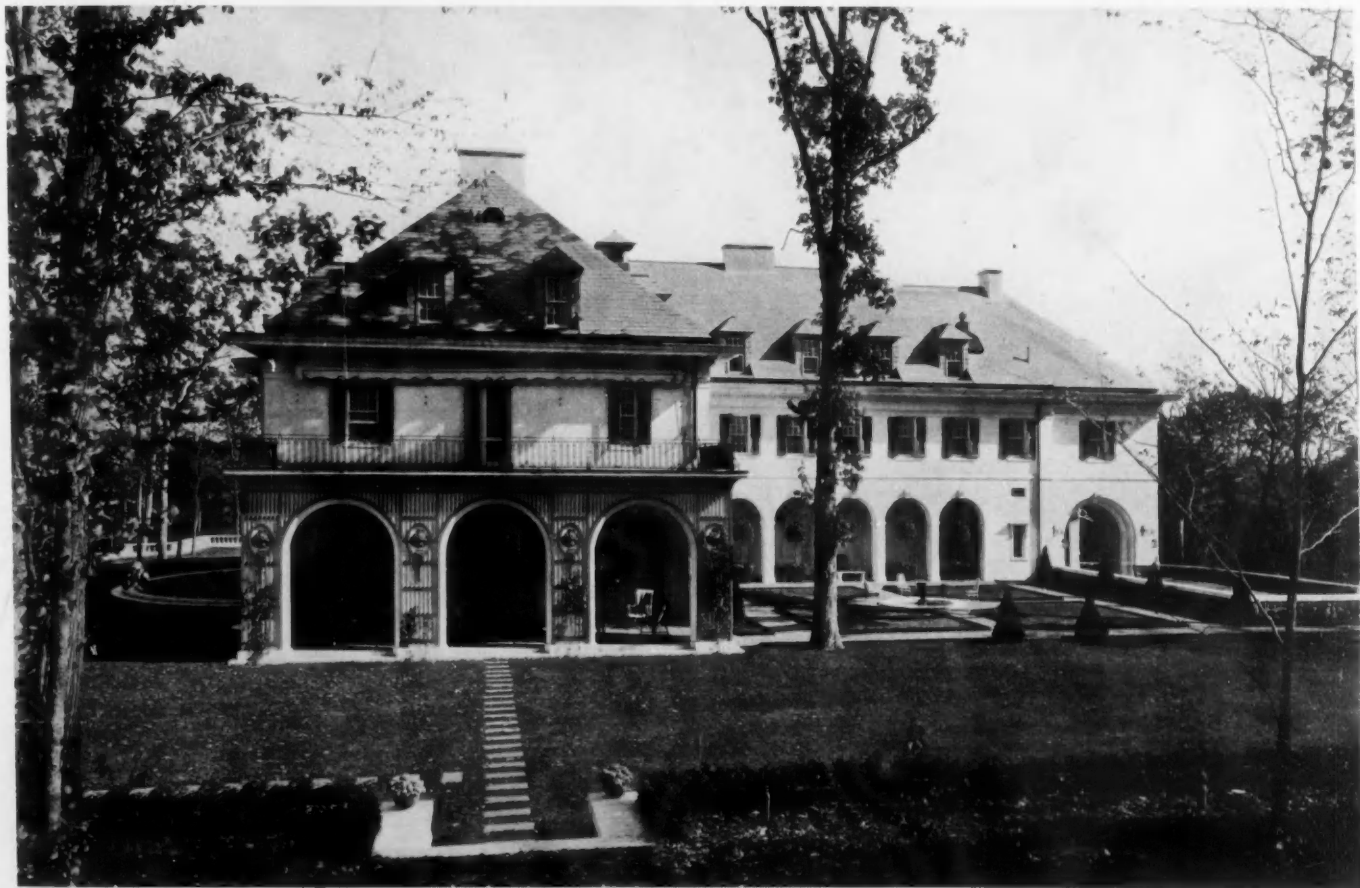


HOUSE AND STABLE
AT
JENKINTOWN, PA.

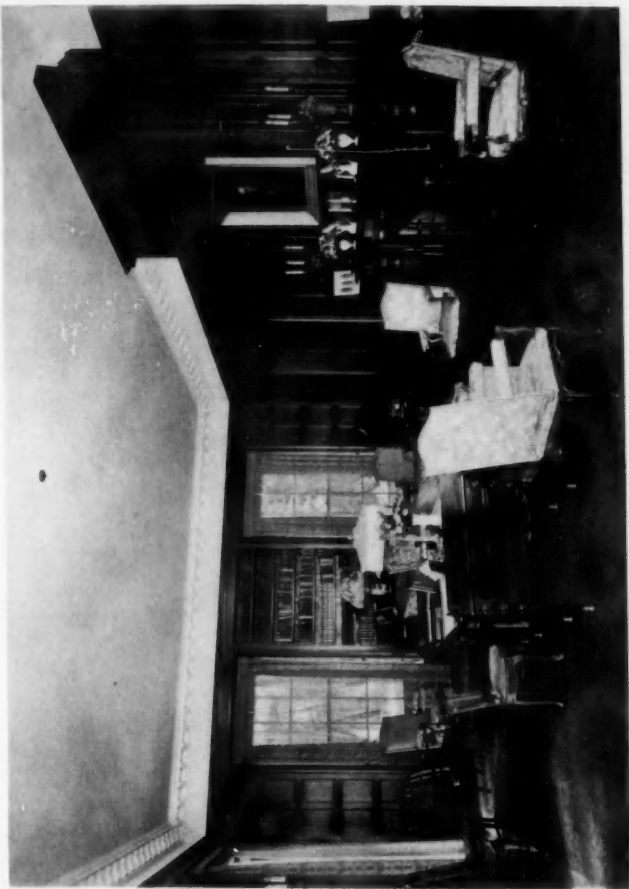
COPE & STEWARDSON, ARCHITECTS.



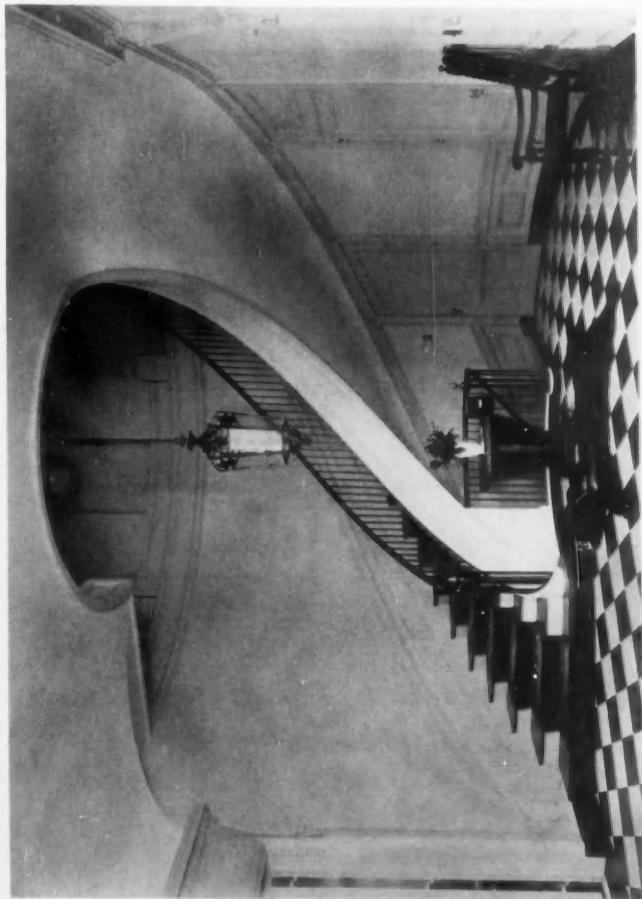
DETAIL OF ENTRANCE TO HOUSE.



HOUSE AT MT. KISCO, N. Y.
BUILT OF TERRA-COTTA HOLLOW TILE BLOCKS WITH STUCCO FINISH.
DELANO & ALDRICH, ARCHITECTS.

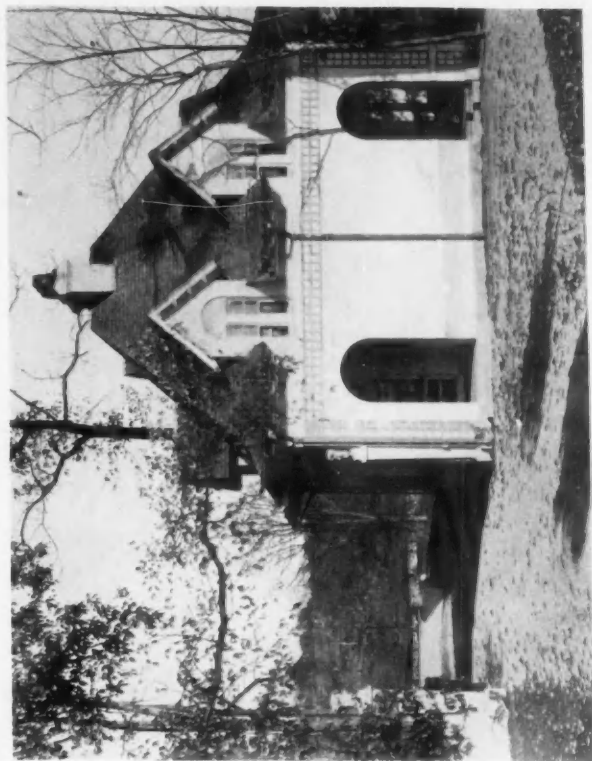


LIBRARY.
HALL.

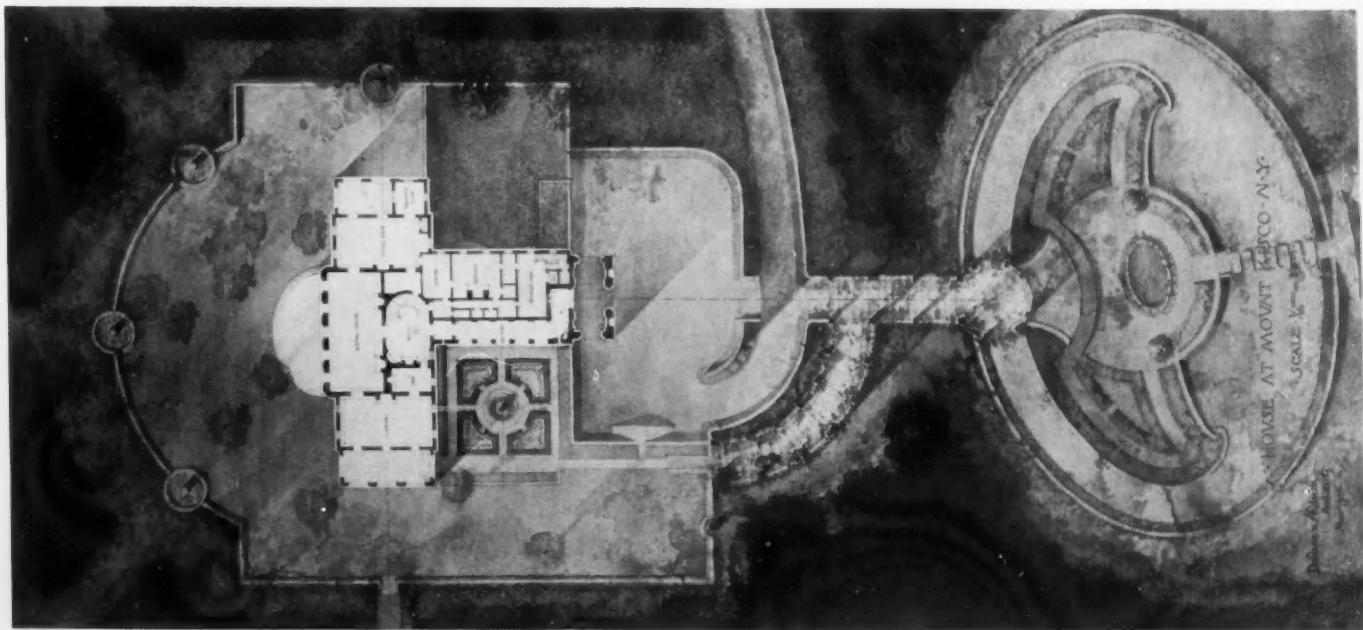
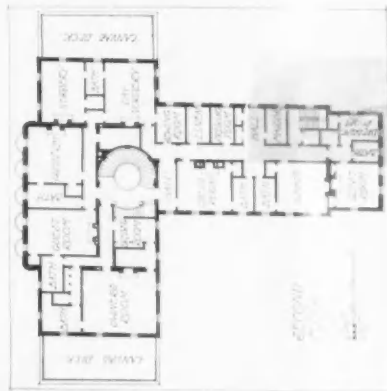


DINING ROOM.
HALL.

INTERIOR VIEWS, HOUSE AT MT. KISCO, N. Y.
DELANO & ALDRICH, ARCHITECTS.



PLANS, STABLE AND GATE LODGE.
HOUSE AT MT. KISCO, N. Y.
DELANO & ALDRICH, ARCHITECTS.



Legal Hints for Architects.—Part VII.

WILLIAM L. BOWMAN, C.E., LL.B.

Contract Clauses. Our previous considerations of various contract clauses, using the ordinary uniform contract as a basis for suggestions, have brought us to the questions involving additional drawings and explanations, full-sized details, models, etc., which are not directly specified in the contract. The usual clause reads "that such additional drawings and explanations as may be necessary to detail and illustrate the work to be done are to be furnished by said architect, and they agree to conform to and abide by the same so far as they may be consistent with the purpose and intent of the original drawings and specifications," etc. No argument seems necessary to show that this particular clause does not permit or authorize the architect to change his scale plans, but how many architects to-day are there who do not in some way make such changes? While it must be admitted that often such changes are minor or of no serious consequence, yet since we must all be governed to some extent by the general principles of what we do, even such changes should, as far as possible, be avoided. Some architects have attempted to take an illegal advantage by means of this clause, or of one of similar import. In one instance the architect added to his working details certain written provisions forbidding the assignment of the contract and fixing a date of completion of the work beyond which time the contractor would be liable to liquidated damages or to a deduction for non-completion on time. It was of course held that such provisions were not a necessary part of working details, and hence they were not binding upon the contractor. An important and interesting case involving this point will now be taken up in detail, and to save time and repetition many of the other points of interest therein will be mentioned.

The scale drawings of a modern city store used and furnished by a certain architect for bidding purposes showed an outline of designs for elevator screens and stair balustrades for the first story only. They showed that there were to be at certain indicated points ornamental features such as leaf work, but did not show the character, quality, or extent of such work, and the specifications did not help the drawings in this respect. The architect afterwards claimed that the bidders were shown certain photographs of fine ornamental iron work made in Europe and a certain specimen of grill work by a well-known manufacturer, but the contractor who was low bidder at \$88,634 (the next bid being \$135,000) denied that he had ever seen said photographs or sample work until after he had signed the contract. Then they were presented to him by the architect for signature. After some discussion of the matter with the architect the contractor immediately wrote a letter stating that in his estimate he had allowed \$4,800 for stair balustrades and \$15,000 for elevator screens, and that he was willing to spend that amount for such details as the architect should choose and that before proceeding he wanted a clear understanding as to the value of the work to be done. The owner thereafter signed the contract not knowing of this difference between the contractor and the architect. This contract provided as follows upon the material points to be mentioned herein: that the contractor

admits that the drawings and specifications are sufficient for their intended purpose, and covenants and agrees to follow same, and furnish all materials of the quality and kind set forth in the specifications and execute all work strictly in accordance with the drawings, using for data and dimensions the figures marked on each drawing in preference to what the drawing may scale, and to be governed in each case by the detail drawing in preference to what the general drawing may show for the same part of the work; and the contractor hereby expressly waives all claim or demand to any allowance for extra work or materials that may be furnished, unless in each case such extra work or materials shall have been furnished upon a written order signed by the architect; that in case the parties hereto cannot agree as to the true value of extra or deducted work or the amount of extra time, or in case they disagree as to the true meaning of any covenant or agreement herein, the decision of the architect shall in each case be final and binding; should any dispute arise respecting the true construction or meaning of the drawings or specifications the same shall be decided by the architect and his decision shall be final and conclusive. Thereafter the contractor started his work, and against his protest and claims for extra work he was furnished detailed drawings by the architect which required him to spend about three times his estimate for the two items in dispute. The ornamental features of the full-sized details were not as elaborate as the photographs, but required leaves, buds, fruits, vines, and various artistic figures which were not indicated by the scale drawings, and some of them necessitated hand work by skilled ironworkers.

When the entire ornamental work was completed, a further question arose as to how much time of delay there had been on the part of the contractor. The contractor claimed that the chief cause of the delay was the architect himself, in his failure to furnish the detail drawings. Assuming to act under the contract provisions above given the architect decided in favor of the owner and then issued a final certificate. In said certificate but in a lump sum the architect allowed the owner \$3,900 for delay and disallowed the contractor anything for the odd \$40,000 which the elevator screens and balustrades cost him over his estimate on the scale drawings. The owner paid the amount of said certificate and the parties then went to court, the contractor suing for extra work and to get rid of the penalty imposed for delay. In the lower court the master before whom the case was tried, decided in favor of the owner on the ground that the decision of the architect was a bar to the relief sought by the contractor. This decision was upheld on the first appeal but reversed upon the next. The last court held that the award of the architect in reference to the elevator screens and the stairway balustrades and the damages occasioned by delay must be disregarded entirely because the architect exceeded his authority under the contract in deciding those questions, and hence his certificate had no binding effect on the court. The contractor was then permitted to recover for the difference between the value of the stairway balustrades as placed in the building and the

\$4,800 he had allowed in his estimate, also the difference between the value of the elevator screens as placed in the building by the contractor and the \$15,000 which he had allowed in his estimate; and the lower court was directed to take up the question of fact as to who was responsible for the delay with a view of determining whether or not the contractor was liable for such damages.

The opinion of the chief justice who wrote for the court in this decision is particularly clear and concise in its statements so that it would seem fitting to quote somewhat at length therefrom, particularly as there is a vein of good practical advice to architects therein. "It is plain that the scale drawings were too indefinite to enable the contractor to determine what was required, and that the contract as originally drawn was in that respect ambiguous and uncertain. Had the photographs or specimen of grille work been made a part of the contract by reference or otherwise, the ambiguity would have been removed," etc.

"Defendants in error (the owners) also argue that it is almost impossible to make the scale drawings and specifications show the details of the work or even indicate fully its character and value, but that they always need to be, and are, supplemented, and that they may be supplemented by enlarged sketches on the margin of the scale drawings, or by reference to known and existing specimens of similar work, or by reference to photographs of such work. This reasoning is sound, but where specimens of photographs are relied upon to supplement the scale drawings they should be identified as a part of the contract or as illustrative thereof, so that there could be no question that they were used to supplement the scale drawings. In this case there was no such marginal sketch and no such specimen or photograph was so identified. In this condition of the record it is contended that the scale drawings may be supplemented by the general standing of the architect and the usual character of his work, the richness or simplicity of the building and the purposes for which it is designed.

If the argument last mentioned is entitled to any consideration at all, it may be observed that in this case detail drawings were furnished after the contract was entered into, from which plaintiff in error was able to ascertain, without any difficulty whatever, precisely what the architect wanted. *There is no legal reason why such detail drawings should not have accompanied the contract in the first instance and made it certain*, without leaving the parties to determine their rights by so doubtful a measure as that afforded by the general standing of the architect and the usual character of his work, or by the richness or simplicity of the building and the purposes for which it was designed.

"It is contended by the defendants in error (the owners) that the scale drawings themselves are not definite and certain, and that under the contract the architect has the power to determine the true construction and meaning thereof; and, further, that the architect did determine the meaning of the scale drawings and furnished the detail drawings in accordance with such determination, and that the ambiguity in the contract is thereby cured. In that view of the matter the contract was not only ambiguous, but it was blank and meant nothing so far as it was evidenced by the scale drawings. The difficulty about this contention is, that with the scale drawings in the condition they were when the original draft of the contract was signed by S. (the contractor) no one could tell what was

required, and if that was to be ascertained some months later by the architect, and he had the power to require screens and balustrades that would be of the value of \$20,000, or that might exceed \$50,000 in value, without any increase or decrease in the contract price for all the ironwork, which was \$88,643, there was no meeting of the minds of the parties and the contract was void.

"It is argued that under the provisions of the contract set out in the foregoing statement the architect's award is conclusive. It is manifest that the architect, in making his award, exceeded his jurisdiction by regarding that as a part of the contract which was not a part of the contract and in giving F. (the owner) the benefit thereof, and that he excluded from consideration, as not being a part of the contract, that which should have been regarded and treated as a part thereof. In other words, the rights of the parties which he attempted to adjudicate were not the rights which were submitted to him for arbitration. His finding was in reference, in part, to matters not submitted to him and disregarded other matters which were submitted to him. He departed from the authority conferred upon him by the contract, and his award being an entirety is therefore not binding and is wholly ineffectual."

This case exemplifies two serious difficulties which the architect can easily remedy if he but remember them: first, the leaving of anything in his plans or specifications that is not plain, concise, and obvious to all, or anything open to several interpretations; and second, a failure to know that his powers as an arbitrator are not the same under every contract; and that he must act *only* in accordance with the direct and explicit authority granted by the particular contract. I have already suggested in a previous article how the first difficulty could be overcome, and to that should be added the suggestion from the learned writer of the opinion just cited, that the important and costly detailed drawings be prepared before the contract is signed, so that they may be identified in said contract by direct reference. The second difficulty will be discussed later when we come to the consideration of those various clauses whereby the architect acts as an arbitrator.

One other point worthy of note in this case, although the opinion does not mention it, is that the detailed drawing must have been held a sufficient ordering in writing of extra work to satisfy the contract clause in that regard.

In still another case where the contract provision was that no additional work should be done without a written order of the architect, it was similarly held that the detailed plan furnished the contractor by the architect showing the additional work satisfied the contract so that the owner had to pay for such additional work. These decisions furnish another good reason why the architect should be especially careful that his detail drawings do not require more than the scale drawings and specifications, otherwise he may make the owner liable for unexpected extra work.

Many of the municipal contracts have a pet clause somewhat as follows: "The various drawings, etc., are intended to cover a complete and perfect job in every respect. Anything omitted in this specification and shown on the drawing or vice versa is to be done by the contractor without extra charge or expense." However, it has been held that such a clause did not authorize the architect to change his plans or drawings.

On the other hand there have been questions arise as to

what an owner or architect is required to furnish where it provides by the contract that the owner shall furnish "all detail drawings." One of the cases where such a question has been answered judicially, was under a contract for the modern steel work for a skyscraper. It was decided that the owner was required to furnish a plan showing the position of each column, beam, girder, etc., but not what are known as "shop-drawings and punching sheets."

Ownership of Plans and Specifications. We have now come to one of the especially interesting clauses for the architect, namely, "It is further understood and agreed by the parties hereto that any and all drawings and specifications prepared for the purposes of this contract by the said architect are and remain his property," etc. My personal searches have failed to discover any legal determination as to how far this particular clause now in such common use affects the ownership of plans and specifications as between the employer or owner and the architect. Let us see from a view of the reported cases what effect such a clause would probably have, remembering in the first instance that the architect is not a party to that agreement. In an early English case the architect's contract of employment provided for partial payments much as they are paid to-day and for termination of the employment at certain stages of the contemplated work at the option of the employer. After the plans and specifications were prepared, the owner decided not to proceed with the work, and thereupon notified the architect of his decision, offering to pay the two and one-half per cent then due upon the contract, and demanding the plans and specifications. The architect refused to part with them and sued the owner for his payment, setting up a custom among the architects to retain their plans if the work was not proceeded with. The court held that such a custom even if proved would be unreasonable, and that the owner need not pay for the plans and specifications unless he obtained them.

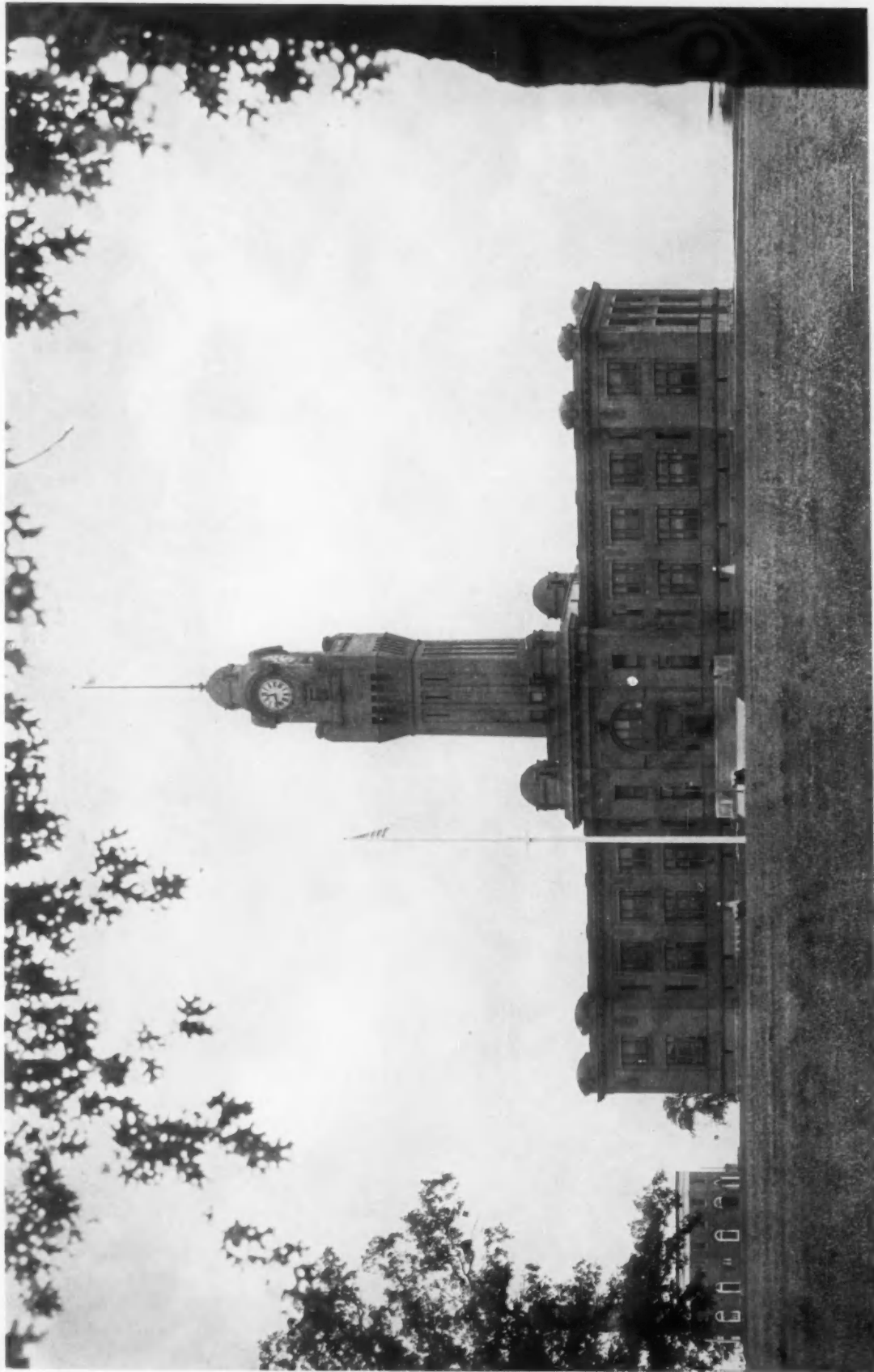
In a rather late case where the building was completed under the architect's supervision and the architect paid in full and then refused to give the owner the plans and specifications, the same question was passed upon and the same decision given. The basis of both of these decisions seems to be that the contract between the parties resulted in the making of plans the property in which passed to the owner on payment of the remuneration provided under the contract. The opinion of one of the judges who made this decision contains the following comments: "If one considers the matter from the point of view of the reasonableness of the custom set up, the argument seems to me to be entirely in favor of the building owner. What would be his position after the building was completed? Unless he has the plans, how is he to know where the drains, the flues, and many other things are? Is he bound to go to the architect and make a fresh contract with him with respect to every matter that arises relating to the structure? Counsel for the defendant (the architect) were bound to admit that, if their view as to the retention of the plans is correct, there would be some sort of obligation on the architect for their safe custody; but that admission does not make the retention reasonable."

Unquestionably, where an architect's plans and specifications win a prize or award in a competition, said plans and specifications become the property of the party or body giving the prize or paying the award. There are numer-

ous cases showing attempts of the architects to get away from this rule just stated, but they seem to have been uniformly unsuccessful. The reason for these decisions has been expressed in this way: "It is true there seems to be a custom with architects to retain the plans in such cases, unless the architect whose plan is adopted is employed in the erection of the buildings. This may be a very good custom among architects as between each other, but it binds no one else. Different classes of professions may very properly adopt certain rules for their own government and for the regulation of their particular business. The mistake is in giving them the force of law and supposing they can affect other persons not parties to the arrangement and who have no knowledge thereof."

Our considerations clearly indicate that if an architect intends to retain his original property—right in his plans and specifications, he must provide for such retention on his part in his original contract with his employer. This entire matter has become of less importance it would seem on account of the late decision which holds that unless an architect's design is covered by letters patent or protected by copyright, any voluntary unrestricted surrender of such design or of plans and specifications causes the architect to lose all right of property to them. In this particular instance, an architect had prepared plans and specifications for a house, filed the same with the building department as required, superintended the construction, and received his pay therefor. Later another party who was pleased with the design called and asked for a price for a similar house. Upon the fee being given, the party stated that he could get the same work for less money. Thereafter that party employed another architect who practically duplicated the first architect's design and house. The architect then brought action against said building owner for the value of the plans, claiming a common law right of property in the plans. The court held that so long as the plans for the house remained in the possession of the suing architect, they constituted personal property and that no one had a right to take them from him or make use of them without his consent. The filing of the plans and specifications and the architect's consent to the construction of the house which he superintended was held to have dedicated said plans to the public. The court said: "The law protects him (the architect) in the first publication of his work; it guarantees him the right to receive compensation for his labor and when this has been accomplished the purpose of the rule of law has been served and at common law he can have no further rights in the work." It would, therefore, seem well settled now that at common law the architect's rights in his designs, plans, etc., are his own property only so long as they are unpublished or not dedicated to the public.

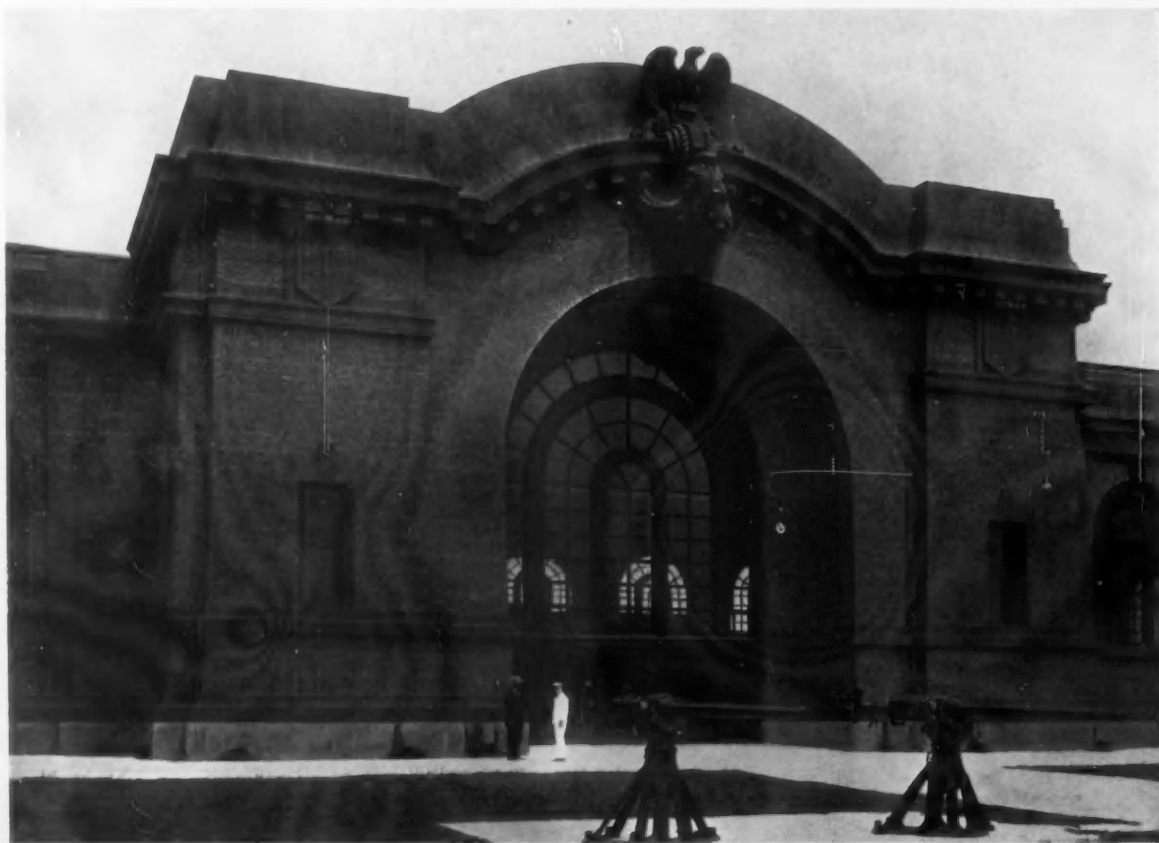
As between the architect and the contractor it has been held that while the plans and specifications belonged to the architect as general owner, yet where there has been an unconditional delivery of them by the architect to the contractor pursuant to the building contract, then the contractor has a special property in them entitling him to the use and possession of them during the time the building is in course of construction. It was also held that if the architect should take without the contractor's consent and carry away such plans and specifications in the possession of the contractor before the completion of the building, then the architect would be committing a trespass.



ADMINISTRATION BUILDING AND PARADE GROUND, NAVAL TRAINING STATION, NORTH CHICAGO, ILL.
JARVIS HUNT, ARCHITECT.



MAIN ENTRANCE, DRILL HALL AND INSTRUCTION BUILDING, BOAT HOUSE
NAVAL TRAINING STATION, NORTH CHICAGO, ILL.
JARVIS HUNT, ARCHITECT.



ENTRANCES TO MESS HALL AND DRILL HALL, NAVAL TRAINING STATION, NORTH CHICAGO, ILL.
JARVIS HUNT, ARCHITECT.

Editorial Comment and Miscellany.

COMPETITION FOR A STORE AND LOFT BUILDING. DESIGNED IN ARCHITECTURAL TERRA COTTA. AWARD OF PRIZES.

THE Jury of Award for the Store and Loft Building Competition, which was the problem for the last Annual Architectural Terra Cotta Competition conducted by THE BRICKBUILDER, awarded First Prize (\$500) to I. P. Lord and F. D. Bulman, associated, Boston; Second Prize (\$250) to Claud W. Beelman and Walter Scholer, associated, Indianapolis; Third Prize (\$150) to Jack Lehti, Washington; Fourth Prize (\$100) to William F. Burkhardt, Jr., and G. Evans Mitchell, associated, New York City; First Mention to William R. Schmitt, New York City; Second Mention to John Atwell King and Hubert Douglas Ives, associated, New York City; Third Mention to George Richard Klinkhardt, New York City; Fourth Mention to J. Frederick Larson, Montreal; Fifth Mention to Wirt C. Rowland and Herbert Wenzell, associated, Detroit; Sixth Mention to Charles G. Beersman and Frank A. Engel, associated, New York City. The Competition was judged in Boston, January 20th, by Professors Eugene Duquesne, H. Langford Warren and J. S. Humphreys, of the Architectural Department at Harvard, and Messrs. J. Harleston Parker (Parker, Thomas & Rice), Hubert G. Ripley, and James Ford Clapp.

PLATE ILLUSTRATIONS — DESCRIPTION.

THE BEVIER MEMORIAL BUILDING, ROCHESTER, N. Y. PLATE 6. The building accommodates the Department



DETAIL BY NEWHALL & BLEVINS, ARCHITECTS.
Executed by the Atlantic Terra Cotta Company.

of Fine Arts of the Rochester Mechanics Institute. The exterior is of "Tapestry" brick with a soft yellowish gray tone. The sill courses, window soffits, cornice brackets, and coping are of colored faience, blues, greens, and yellows predominating. The iron sash is painted a russet brown, harmonizing with the brick.

APARTMENT HOUSE, BROOKLYN, N. Y. PLATES 7, 8. The exterior is treated in red brick, buff limestone, and

terra cotta which in the upper part of the building is of limestone color. The projecting part of the cornice is of copper with the soffit of terra cotta caissons let into the copper, these caissons being red. Upon the interior the floors are of hardwood, the trim of white enamel, and doors of mahogany. The bathrooms have tilted floors and walls. The building, which contains two apartments on a floor, is eight stories high with an apartment on the floor behind the cornice which has been treated for the manager of the company. The building cost approximately \$250,000 or about 37 cents per cubic foot.



IONIC CAPITAL EIGHT FEET IN WIDTH.
Executed by the Atlantic Terra Cotta Company.
Garber & Woodward and Tietig & Lee, Architects.

the flashings, cresting finials, etc., are of copper. In the basement is the fire apparatus with double folding doors at either end of the room. The main staircase which leads from the basement to the second floor is of iron with slate treads and ornamental railing. On the second floor is the auditorium seating two hundred and fifty people. The building is largely fireproof with the walls and floors of basement in brick, the walls of the upper floors filled in with brick, and the beams of heavy yellow pine treated in mill construction. The building is heated by steam. The contents, figured from the footings to cover one-half height of gables, are 120,000 cubic feet. The cost, exclusive of architect's commission, was \$19,225, making the cost per cubic foot approximately 16 cents.



DETAIL BY GEO. H. STREETON, ARCHITECT.
Executed in Polychrome Terra Cotta by the Atlantic Terra Cotta Company.

TO ABOLISH COMPETITIONS.

THE Southern California Chapter of the A. I. A. is taking vigorous steps to discourage the holding of architectural competitions throughout the country and to

THE BRICKBUILDER.



DETAIL BY BARNETT,
HAYNES & BARNETT,
ARCHITECTS.
Winkle Terra Cotta Company,
Makers.

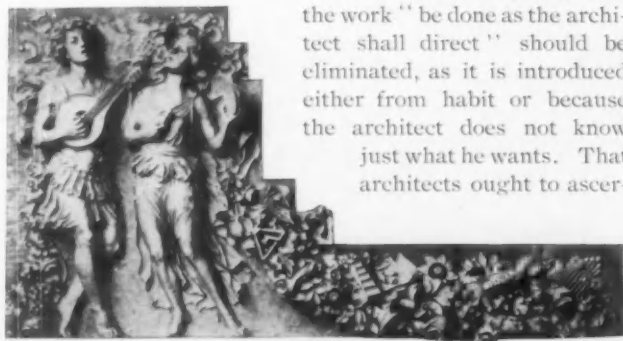
establish a better professional basis for the practice of architecture. None of the chapter members participated in the recent competition held at San Diego for a Polytechnic high school, or the one being conducted at San Bernardino for a Y. M. C. A. building. The chapter has prevailed upon the Los Angeles Board of Education to select the architects for the new school buildings, and has persuaded the Library Board not to hold a competition for the six branch library buildings to be erected in that city.

JOINT MEETING OF
BOSTON ARCHITECTS
AND BUILDERS.

ON December 5th a joint meeting and banquet was held by the architects and builders of Boston. William H. Sayward, Secretary of the Master Builders' Association,

in commenting on the intimate relationship that already existed between the architects and builders, expressed the need of a more complete union as well as a joint advisory committee to consider matters of mutual interest. During the discussion of various topics the following suggestions met with universal approval. In the matter of scale drawings it was considered that with a $\frac{1}{8}$ -inch scale drawing there should be furnished $\frac{3}{4}$ -inch scale details for every part of the plans that needed explanations. That the specifications should not be long, as a multiplicity of words leads to confusion. That the so-called "Blanket

Clauses" which specify that the work "be done as the architect shall direct" should be eliminated, as it is introduced either from habit or because the architect does not know just what he wants. That architects ought to ascer-



DETAIL BY W. H. MCELFRATRICK, ARCHITECT.
The New Jersey Terra Cotta Company, Makers.

tain from builders whether things which they might contemplate are feasible or not. That the general contract is best for owner, architect, and all concerned, and that the architect should select responsible, experienced sub-contractors and require the general contractors to employ them. That there should be a standardization of clauses in specifications in order that the personal equation might be eliminated as far as possible.

NEW YORK POST-GRADUATE MEDICAL SCHOOL
AND HOSPITAL.

THE New York Post-Graduate Medical School and Hospital's new \$900,000 fireproof building, 20th street, was opened January 11th. The hospital now possesses the facilities for giving to the great congested East Side the largest dispensary service in the world. The new wards, laboratories, and operating rooms are arranged for the study of diseases in small groups. It has three hundred



DETAIL BY FRANK G. PIERSON, ARCHITECT.
Executed by O. W. Ketcham Terra Cotta Works.

and eighty beds, many of them in private rooms. The majority of the new wards accommodate from two to seven patients, while the largest can take care of fifteen. The new building, which is mainly of brick and terra cotta, rises to a height of eight stories with a tower of five additional stories. The roof is far above the street and away from noise and other distractions. The patients can enjoy the scenes in the East River, or if too cold or wet they can go into the "little" ward which rises above the tower. This ward is complete in itself and supplies full service in the matter of food and every requirement to the temporary roof-dweller. The tower contains private rooms only.

The Architectural League of New York City announces its twenty-seventh annual exhibition to open at the Fine Arts Building on January 28th. Among the exhibits Karl Bitter will present a bas-relief equestrian portrait model of the late President Alexander Cassatt of the Pennsylvania Railroad, and William Mackay will display "The Legend of the Saragossa Sea," a decoration which he has recently completed for Castle Gould. The exhibition will be open from January 28th to February 17th inclusive.



DETAIL BY JAMES KNOX
TAYLOR, ARCHITECT.
Executed by Conkling-Armstrong
Terra Cotta Company.

In the January issue of *The Craftsman* is an article on the decorations made by Everett Shinn for the new City Hall at Trenton. The panels represent the special industries of Trenton and are of tremendous size, 45 feet long by 22 feet high.

The left panel shows men working in the colossal steel mills, the right depicts the pottery kilns with the men at work.

At a recent meeting of the Philadelphia Chapter of the A. I. A., resolutions were adopted commending the site selected by the Washington Park Commission and the National Fine Arts Commission for the Lincoln Memorial. They also emphatically opposed the construction of a memorial roadway, which in their opinion would be unsuitable as a national memorial to Abraham Lincoln and would lack the monumental and tangible quality such a memorial should possess.

An international conference on People's Baths and School Baths will be held this year at Scheveningen (The Hague), during the last week of August. The chief purpose of the meeting is the promotion of public interest in bathing from a hygienic point of view. Municipal authorities and civic improvement societies in all civilized countries will be invited to send delegates to attend the conference.



DETAIL BY GILLESPIE & CARREL,
ARCHITECTS.
New York Architectural Terra Cotta
Company, Makers.

A section of the city of Chicago, bordering Lake Michigan near Lincoln Park boulevard and consisting of eleven blocks valued at \$10,000,000, is to be set aside exclusively for residential purposes by the Lake Shore Improvement Association of that city. The land, which is practically clear of buildings, will be given only with a proviso that no buildings other than residences, apartment buildings, and hotels are to be erected. Plans are being considered for a hotel which will be one of the finest in Chicago.

A stadium which will seat more than one hundred thousand people is to be a feature of the general scheme of beautifying the lake front of Chicago, according to an announcement made recently by the South Park Commission. Plans have been drawn and are in the hands of the commission. The stadium will be located so that the spectators will have a view of athletic games, army tournaments, or other outdoor gatherings in Grant Park, and also water events on Lake Michigan.

At the Real Estate Show to be held at Grand Central Palace, New York City, in March, cash prizes will be awarded to the architects showing the best plans and elevations for suburban homes. Frank H. Holden will act as advisory counsel, and the rules of the American Institute of Architects will prevail.



POST OFFICE, NORWICH, CONN.
Architectural Terra Cotta furnished by the South Amboy
Terra Cotta Company.
James Knox Taylor, Architect.

An option has been obtained by the Metropolitan Motor Speeding Association on a tract of about three hundred and thirty acres on the Newark Meadows, N. J. Their plans for a motordrome as tentatively outlined are to provide a racing track of two miles in circuit. The main structure, containing the grand stand, will be of brick and will have a seating capacity of one hundred thousand. The road-bed will be of vitrified brick.

J. Horace McFarland, President of the American Civic Association, in his annual address at Washington urged the creation of a Federal bureau of National parks and advocated Government control of all land containing great natural phenomena. Mr. McFarland declared the transmutation of the forested district lying between Washington and Baltimore into the Lincoln Memorial National Park would be a more fitting tribute to the Great Liberator than a mere commercial highway.

IN GENERAL.

The boilers used in the Borough Hall, Roselle, illustrated in this issue, were furnished by the H. B. Smith Company.



HOUSE AT ROCHESTER, N. Y.
Faced with Norman Brick made by the Ironclay Brick Company.
Leon Stern, Architect.



HOUSE AT ST. PAUL, MINN.

Built of variegated, dark sepia brown interlocking terra cotta facing tile made by the Twin City Brick Company.

The appointment of F. D. Millet as president of the Consolidated American Academy, Rome, has given universal satisfaction. Mr. Millet, living at the Villa Aurelia, gives his entire attention to the affairs of the Academy.

The Grand Trunk Pacific Railway will erect eight large hotels at various points between the Atlantic and Pacific coasts. Considerable credit is due the authorities of this company for their efforts in obtaining buildings with exteriors of architectural interest. The French Chateau type will be followed in its most dignified and artistic sense.

In addition to three modern commercial buildings of ten stories each to be erected in Los Angeles, contracts have been let for the Water Department Building to cost \$250,000, the Times Building, \$210,000, and the Clark Memorial Home, \$200,000.



BATH HOUSE, HOBOKEN, N. J.

Built of "Natco" Hollow Tiles furnished by the National Fire Proofing Company.
James E. Ware, Architect.

The National Fireproofing Company supplied Natco hollow tile blocks for the walls of the Borough Hall, Roselle, illustrated in this number.

The annual meeting of the Pacific Coast Architectural League will be held in Los Angeles February 23d, together

with an exhibition of architectural work. The \$1,000 prize offered to the members of the League for the best work in the Atelier classes will be awarded at that time.

O. L. Brettner announces the opening of an office for the practice of architecture at 412 Woodruff Building, Springfield, Mo.

Charles O. Pfeil has withdrawn from the firm of Shaw & Pfeil, and will occupy suite 1401-3 Tennessee Trust Building, Memphis, Tenn.

The brick used in the apartment at Brooklyn, William A. Boring, architect, illustrated in THE BRICKBUILDER for this month, were furnished by the Sayre & Fisher Company.

The American Terra Cotta & Ceramic Company furnished the terra cotta for the commandant's house, the main guard-house, four dormitories, drill house, instruction building, administration building, mess hall and gallery, power house, hospital, laundry, receiving guard-house, and ten officers' quarters, which form part of the Naval Training Station at North Chicago, illustrated in this issue of THE BRICKBUILDER.

Thomas W. Harris and Aaron Riley Merritt have formed a copartnership for the practice of architecture, with offices at 1 Erie County Bank Building, Buffalo, N. Y.

The Atlantic Terra Cotta Company supplied the polychrome terra cotta for the Bevier Memorial Building, Rochester, and the house at Bratenahl, Ohio, together with a number of garden jars for the house at Glen Cove, N. Y., all of which buildings are illustrated in the plate forms of this issue.

R. Clipston Sturgis will

have charge of the work of restoring Christ Church on Salem street, Boston, making it of more practical use and at the same time preserving it as a historical monument. The entire interior will be remodeled, as far as the present plans go, to resemble the view previous to 1806, when extensive changes were made.

Emlyn L. Stewardson and James P. Jamieson, practising architecture under the firm name of Cope & Stewardson, Philadelphia, announce that the firm is dissolved by mutual

DETAIL BY MYRON H. CHURCH,
ARCHITECT.

Executed by The Northwestern Terra Cotta Company.

consent. Mr. Stewardson will continue to practise in Philadelphia with George Bispham Page under the firm name of Stewardson & Page. Mr. Jamieson will continue to practise in St. Louis.

The architectural practice of de Brauwere & Hopper will hereafter be continued by Victor F. V. de Brauwere, 824 Plymouth Building, Minneapolis, Minn.

M. B. Kane, architect, has opened an office in the Bohm Building, Edwardsville, Ill. Manufacturers' catalogues and samples desired.

The Department of the Interior proposes to spend \$381,620 in the national parks in California during the fiscal year ending June 30, 1913. For the development and care of the national parks the Secretary of the Interior has asked Congress to appropriate the sum of \$791,080.60.

The largest apartment house on the Pacific Coast is now being erected in San Francisco. It will provide for twelve apartments on each floor ranging from five to ten room suites. The walls upon the interior will be wainscoted with opaque glass, the floors tiled with marble, and the doors fitted with plate mirrors.

ARCHITECTURAL DRAFTSMAN.—A good all-around draftsman wanted to enter the office of a Chicago architect. Young man—graduate of an architectural school and with good office experience. Opportunity to become head draftsman. Give age, experience, references, and salary wanted to start. Address, Chicago, care The Brickbuilder.

ARCHITECTURAL DRAFTSMAN.—At once; must have five years' experience in designing. State age, experience and salary wanted. Address, Allyn Engineering Co., c/o C. H. Ferber, Chief Architect, No. 606, 607, 608 Second National Bank Building, Cincinnati, Ohio.

PARTNERSHIP WANTED.—By an Architect with technical education and twenty years' experience in an established firm, in or near Boston. Address P. O. Box 1273, Boston, Mass.

The Cincinnati Architectural Club has been established for the purpose of advancing the standard of work among the local draftsmen, with club rooms at 31 West 5th street, Cincinnati. Oscar Schwartz is secretary.

Reports from fifty building centers throughout the United States quoted by *The American Contractor* show a decline of fifteen per cent for the past year as compared with 1910. The same cities show an aggregate loss of sixteen per cent for December last, as compared with December, 1910. The losses and gains in the cities listed are about equally divided. The principal gains for the year were made in Cambridge, 24; Cincinnati, 67; Cleveland, 21; Dallas, 31; Evansville, 52; Hartford, 29; Louisville, 142; Milwaukee, 25; New Haven, 33. The principal gains for December were: Baltimore, 78; Bridgeport, 95; Buffalo, 185; Cambridge, 128; Cleveland, 225; New Haven, 290; Paterson, 73; Rochester, 113; Scranton, 95.

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BULLETIN

RECENT WORK, illustrated in this issue of

THE BRICKBUILDER

Bevier Memorial Building, Rochester, N. Y. . . . Plate 6

CLAUDE BRAGDON, Architect

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Competition for Design of a Children's Room.

THE Forsyth Dental Infirmary for Children is a charity incorporated under the laws of Massachusetts. This charity will care for the teeth of deserving children up to sixteen years of age.

The building which will house the charity is constructed of white marble, and will be flanked on one side by a park and playground for children, who will enter by a side door from the park and pass to a general waiting room on the lower or basement floor. The present competition deals with the decoration in tiling of the walls and a central aquarium of the Children's Waiting Room.

This waiting room will be so constructed that it can be thoroughly cleansed and sterilized daily. The ceiling will be arched, of Guastavino glazed tiles, in a single tone. The floor will be of magnesium or other impervious surface material, also in a single tone. Although the room is in the basement it is well lighted by five full windows.

In this room will be collected deserving children of all nationalities, many of them coming from homes where the surroundings are at least not uplifting. It is expected that the decorative features will be of sufficient interest to hold the children's attention, to stimulate their imagination and to be of value educationally. The keynote of the designs should be cheerfulness. It is hoped that the wall decoration will be as effective in its way as Abbey's *Grail* pictures or the *Canterbury Pilgrimage* of Sewall are in theirs. It is suggested that the subjects deal with fairy tales or well-known children's stories.

The conditions of the competition are as follows:

1. First, second, and third prizes of \$250, \$150, and \$100 respectively will be given the successful competitors.
2. Designs in color for the wall surfaces on a scale of one inch to the foot and a detailed full-size colored drawing of a fragment, including one figure, together with color suggestion for the treatment in tile of the base of the central aquarium, must be submitted to the trustees of the Forsyth Dental Infirmary before March 1, 1912.
3. Competitors must keep in mind the limitations in color and detail which flat tile work demands. Broad color effects rather than fine detail should be sought. Tile units

may be of any and varied shapes, but the limit of area of any tile must be less than 144 square inches.

4. Less than one-half of the available wall space should be given up to pictorial panels or other effects, the rest of the wall space to be covered by plain-colored tiles.

5. Competitors should furnish suggestions as to the color tone of floor and ceiling.

6. The designs and suggestions of the successful competitors become the property of the Forsyth Dental Infirmary for Children, to be used as the trustees see fit.

7. The trustees of the Infirmary reserve the right to require that the successful competitor furnish detailed full-size drawings (color to be suggested) of the designs submitted by him within six weeks of the termination of the competition, for an additional compensation of \$500.

8. The trustees also reserve the right to purchase unsuccessful designs or the individual panels of designs which are not successful in winning prizes, at a price to be agreed upon by the judges in the contest as a reasonable compensation.

9. The competition is open to every one.

10. Each drawing is to be signed by a *nom de plume*, or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

11. The drawing is to be delivered flat or rolled (packaged so as to prevent creasing or crushing) at the office of the trustees of the Forsyth Dental Infirmary for Children, 149 Tremont Street, Boston, Mass., charges prepaid, on or before March 1, 1912.

12. Drawings submitted in this competition must be at the owner's risk from the time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

Blue prints of the room on the scale of 1 inch to the foot will be supplied on application to the trustees of the Forsyth Dental Infirmary for Children, 149 Tremont Street, Boston, Mass., to whom all inquiries should be addressed.

The designs will be judged by Mrs. Phillip L. Hale, Vesper L. George, and C. Howard Walker.

Le Brun Traveling Scholarship Competition.

THE New York Chapter, A. I. A., is about to hold a competition to determine the award of the Le Brun Traveling Scholarship. Under the terms of the Le Brun Deed of Gift, the following provisions are established: The award is to be made to some deserving and meritorious architect or architectural draftsman, resident anywhere in the United States, to aid him in paying the expenses of an European trip, lasting not less than six months. The amount which will be paid to the beneficiary is \$1,000. The beneficiary is to be selected by means of a competition, the award being made by a jury consisting of at least three practising architects, no one of whom is to be connected with any school or atelier for the teaching of architecture. In making the award, the jury is to give full and careful consideration to the records of qualification filed by the competitors as well as to the comparative excellence of the drawings submitted.

Any architect or architectural draftsman, a citizen and resident of the United States, not under twenty-three or over thirty years of age, who shall, for at least three years, have been either engaged in active practice or employed as an architectural draftsman, and who is not and has not been the beneficiary of any other traveling scholarship, shall be eligible to compete. Each competitor must be nominated by a member of the New York Chapter of the American Institute of Architects, who shall certify in writing that the above conditions are fulfilled and that the competitor is deserving of the scholarship. No member of the chapter shall nominate more than one candidate.

Every competitor must engage to remain, if successful,

at least six months abroad and to devote well and truly that length of time to travel and the study of architecture otherwise than by entering any school or atelier or attending lectures, it being intended that the benefit derived from this traveling scholarship shall supplement school or office experience.

It is proposed to begin the competition about March 20th, and to allow until May 1st for the receipt of drawings. Further details as to dates will be issued later, but it is now expected that the winner shall start upon his trip July 1, 1912.

All persons who are eligible, and who desire to compete for this scholarship, are requested to send their applications to Mr. Henry Bacon, 160 Fifth avenue, New York City. Applications must be received not later than March 1, 1912, and must in each case state clearly the residence, citizenship, age, experience, and general qualifications of the applicant, and be accompanied by the necessary nomination and certificate from a member of the New York Chapter, A. I. A. Persons residing at a distance from New York and not knowing a member of the New York Chapter may avail themselves of the services of any well-known architect, who can vouch for them to a member of the New York Chapter with whom he is acquainted.

No application will be considered that is not accompanied by a nomination and certificate from a member of the New York Chapter, A. I. A.—Henry Bacon, Arnold W. Brunner, William M. Kendall, C. Grant LaFarge, H. Van Buren Magonigle, — Committee on Le Brun Traveling Scholarship.